IDENTIFICATION OF BACKWARD AREA AND PLANNING IN EASTERN UTTAR PRADESH : WITH SPECIAL REFERENCE TO FOOD-SECURITY

ABSTRACT

THESIS SUBMITTED FOR THE AWARD OF THE DEGREE OF

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IN

GEOGRAPHY

BY

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ABSTRACT

The process of economic growth involves a significant change in the economic activities over different regions or areas along with a change in the structure of the economy. This process reflects a spatial dimension in the process of growth. It has been successful in some areas where as some areas has continued to remain backward in the sense that the pace of development has been far below than the rate of development in other areas. Therefore, when development over different areas occurs, unequally, it causes unchecked and uncontrolled process of growth leading to regional imbalance and results in numerous economic, social and cultural problems. Once the disparities are established, they get accentuated. It is a well known fact that the region or area which is already developed attract more activities by virtue of their location in developed areas. This leads to unequal growth and the developed areas grow faster at the cost of less developed areas.

Thus there is a need to reduce this regional imbalance. For this, the first important point is interm of social justice. It is believed that income inequalities can be reduced by way of reducing regional disparities. The social justice demands that all citizens are treated alike and given an equal opportunity in life. This is possible only when inter-regional disparities in the levels of development are ironed off.

Therefore, in order to achieve the objective of promoting the growth rate in backward areas and to reduce regional disparities it is essential to identify regions according to the levels of development and to assess the relative positions of

the regions and to delineate homogeneous areas so that for different type of regions, different strategies may be adopted.

The strategies for development of backward region and to minimize regional disparities, it would be appropriate to understand the concept of region. The term 'region' is closely associated with the concept of area or space. The term region is used to mean different spatial units by different persons. Thus it has been used to mean a resource region, programme region, metropolitan region, depressed region, planning region and so on.

There are three ways to define a region. On deals with the homogeneous characteristic, usually a combination of spatial and economic aspects of a region. Second analyses the polarization around some market or urban place within a region, and the third works out a coherent relationship between the existing administrative and political set up and the policy decisions. These attempts to identify a region are respectively based on homogeneity, nodal and programming criteria.

The design of development for the economy as a whole was being discussed. There has been reference for development of 'Backward areas' in the economy in the various plan documents. The discussion of the development of backward areas has been in the context of brining about a balanced regional development and removing regional disparities. It was recognized in the second five year plan that in any comprehensive plan of development, it is axiomatic that the special needs of the less developed areas should receive due attention.

Regional planning is such a strategy which deals, simultaneously, with the problem of multi-level spatial units directly or indirectly. However regional planning would seem to require a bunch of complementary economic activities and rules be formulated for the proper setting of each of these activities. In an area for regional planning, the different regional factors interact and operate in mutual actions and reactions and any change in one normally leads to changes in other, thus setting up a chain reaction. In fact, there is a two way chain reaction, one internal within the regions, and the other external with the neighbouring or farther regions, through the different hierarchial levels of regions.

The role of planning interms of regional development require a certain amount of technical and statistical expertise at the formulation stage and effective participation of people at the implementation stage. These requirements are woefully missing in our planning process. In addition, the absence in proper planning machinery at the state level and the complete non-existence of planning infra-structure at the district levels, make the task of preparing and implementing district plans still more difficult. An attempt in this direction was made by evolving a three tier structure of Panchayati Raj Institutions – Village Panchayat, Panchayat Samiti and Zila Parishad. The Zila Parishad was to function at the district level, while the district collector continued to be the 'collector' of practically all governmental authorities in the district. There is another serious problem that has not been referred to, though the district collector has, the district-level functionaries of all the departments such as health, education, co-operation, veterinary, engineering etc. under him but these functionaries

deal directly with their respective department at the state level. Thus there is "dual supervision" and the possibility of friction and disputes can not be ignored.

Thus it is said that for the district planning, it is necessary to provide horizontal co-ordination and integration between the district administrative system and the local political system and vertical integration between the district level and the state level.

In recent years we have been made more aware of the problems of agricultural development especially the self-sufficiency in agricultural production in general and food production in particular. The achievement of self-sufficiency implies that the level of domestic production is atleast adequate to meet the basic needs of existing population. Similarly, the development of agriculture is of a great importance for the overall economic development of a country like India, where more that 70 percent of people directly or indirectly are engaged and dependent on agriculture and its large share is in national income.

But this sector of economy have different dimensions of problem i.e. explosive growth of population and slow growth of food crops and regional variations in levels and growth of food-grains production. The most serious situation in agricultural economy is an uneven distribution of agricultural land which causes wide spread poverty and food problem among a certain group of farmers which is known as disadvantageous group in rural community. Thus the problem of food production and to achieve food self-sufficiency level is a complex one. A number of investigation programmes have been made by Indian Council of Agricultural Research, National Council of Applied

Economic Research, Planning Commission, Food and Agricultural Ministry and various other organizations, but still the problem is to be solved. Considering all these aspects, the author has selected Eastern Uttar Pradesh to study the levels of development in different districts of Eastern Uttar Pradesh during the period 1981 to 1998.

Eastern Uttar Pradesh is an important part of the Uttar Pradesh. It spreads from 23° 45' to 28°20' North latitudes and 81°5' to 84°36' East longitudes. The greatest length from North to South is about 550 kilometers and maximum width from East to West is about 375 kilometers. The region as a whole comprises of 19 districts of Uttar Pradesh.

In order to identify backward region, to measure levels of sectoral and overall development and the extent of disparities in Eastern Uttar Pradesh, 37 indicators have been selected and these indicators have been grouped in 9 sectors namely – agriculture, industry, education, transport, communication, health, banking, co-operative society and power.

These sectors and their respective indicators were analysed with the help of a simple method known as composite index. Since the indicator varies from one region to another in their occurrence and they are not equally important. Therefore, different weights are assigned to different indicators by method of percent proportional standardized mean, that is to say the weight assigned to one indicator is calculated by using $\bar{x}/\sigma$ for each indicator, where $\bar{x}$ is the mean of the series of one indicator and σ is the standard deviation for same series.

These techniques are used for the assessment of socio-economic development and agricultural development in Eastern Uttar Pradesh. Such type study provides a base for national planning and helps researchers, administrators, policy makers and planner to identify regions, at different levels of development.

The analysis of the study area to identify the backward regions, to measure the levels of sectoral and over all development and extent of disparities in Eastern Uttar Pradesh reveals that there is general development in socio-economic fields. But this development is not uniform in all the districts. The indicators have not been developed in uniform pattern in all the districts. Some are highly developed and some are less developed. Similarly, some are developed in some districts while in other districts they are not developed. Agriculture, education, transport, communication, banking, co-operative societies and power sectors have made high and moderate development in most of the districts of Eastern Uttar Pradesh. The industries have made high and moderate development in Allahabad, Varanasi, Gorakhpur, Deoria, Mau and Sonbhadra, while in the remaining districts the development of industries was low. Similarly, health sector also made high development in Allahabad, Varanasi and Gorakhpur and moderate development in Ballia, Basti, Faizabad, Pratapgarh, Sultanpur and Mau districts. In general, the districts of central and north-western parts have made less progress than the districts of other parts of the study region. There are different factors for the different types development in different sectors. For examples in the fields of agriculture less development in some districts is due to

unfavourable topography, problems of floods and famines, lack of capital and lack of diffusion of agriculture etc. Less development in industries is attributed to the fact that there is a good development in agriculture and more than seventy percent population is engaged in agricultural activity. The educational development is generally related to urban centres and hence high level development is found is those districts which have large number of settlements in terms of population and rural areas have low level of educational development. Transport and communication sectors, in general, have made good progress in most of the districts. Only few districts such as Basti, Gonda, Mirzapur, Siddarth Nagar, Maharajganj, Deoria and Sonbhadra have made slow progress. The development of these sectors depends on the government policies and programmes and ultimately government policies are not the same for all the districts. Therefore, some districts made good progress and some districts made slow progress. Health and bank facilities are also related mainly to urban centres. The major development of these sectors is found in urban areas. Therefore those districts which have large urban settlements, they have high growth in health and bank sectors and in those districts where urban development is less generally the development of these sectors is moderate and low. Co-operative societies development is found more in those areas where modern banking facilities are lacking and where the regions are mainly rural in nature. Power development was high and moderate in most of the district except Bahraich, Basti and Pratapgarh where it was slow.

Level of regional development show many dimensions of progress and stagnant. There are found strong contrast in the

levels of development between the different regions of the area. A contiguous region of high level of development is observed in the southern part of the area, which is relatively prosperous and well developed while the other regions are moderately developed. The general pattern of the levels of development shows a decline in the economic and social well being in some districts like Bahraich, Basti, Gonda, Maharajganj and Siddarth Nagar. The high level development is found in Allahabad, Varanasi, Sonbhadra, Mirzapur, Gorakhpur, Azamgarh and Mau. These districts attained the high level development in 1996. Similarly, the districts of Pratapgarh, Ballia, Deoria, Faizabad, Sultanpur, Jaunpur and Ghazipur recorded the medium level development in 1996. Five districts namely Bahraich, Gonda, Basti, Siddarth Nagar and Maharajganj remained in low level category because of less development of agriculture, economic and social facilities and amenities. In these districts we find some industrial development but the development in other sectors is very low.

The "Food-Security" is defined as a situation where every one on the globe has access, at all times to the food needed for an active and healthy life. At the district level or house hold level, food-security implies having physical and economic access to foods that are adequate in terms of quantity, quality and safety. The over all food security entails three basic issues viz (i) availability (ii) stability (iii) accessibility.

In the present study the uniform norms of desirable cereals and pulses for the entire population of the Eastern Uttar Pradesh have been used. Because the data of cereals and pulses is available and they are important things for diet and nutrition in Indian situation. According to Indian Council

of Medical Research, Hyderabad, the standard requirement for food (cereals and pulses) is 176 kgs. per head per year. Indian economy is an agricultural economy and here more than seventy percent population is engaged in agriculture and live in rural areas, therefore food-security in India involves an over all rural development, agricultural development and corresponding poor man's development, where by he is able to either produce sufficient food in the decentralized regional planning for or else is able to earn to buy sufficient food. Equitable availability of food and equitable accessibility of food require decentralized regional planning for food production and planning for storage and decentralized marketing.

In Eastern Uttar Pradesh it has been found that in recent years the demand for food grains is not increasing because of greater production. All the districts have per head per annum higher production than the standard requirement. But if we see the production pattern of cereals and pulses in Eastern Uttar Pradesh since 1981, we find a different pattern of production of cereals and pulses. It has been found that in 1981, there was deficit condition in per head share of cereals and pulses in most of the districts. Only two districts namely Deoria and Gorakhpur presented positive condition. But in 1998, the per head share of cereals has increased more than 100 percent in all the districts and per head share of pulses decreased from 1981 to 1998. Thus at present there is no shortage of cereals in the region and the region has sufficient production of cereals than the requirement for the total population. But the per head pulses production has decreased in most of the districts of Eastern Uttar Pradesh from 1981 to 1998. The main cause of decease in pulses production is the

decrease in area under pulses. It has been found that a large area under pulses has been replaced by wheat and rice. Because the productivity of wheat and rice has increased many times by new agricultural technology. This is the major cause that is why the production of cereals has increased in Eastern Uttar Pradesh while the production of Pulses has decreased.

Thus from the study two points emerge – one is that there is adequate cereal production in the region than the requirement and other is pulse production is less than the requirement. The pulse prices, at present are very remunerative to the farmers but it is the risk of crop failure due to pests and diseases that discourages the farmers to cultivate the pulses in the large scale. Therefore, it is essential for the agricultural scientists to bring about a technological break through as in the case of wheat and rice by developing more high yielding and pest and disease tolerant varieties of pulses. Keeping this view in mind, a number of improved varieties of pulses have been developed and they have checked the declining trend in areas where irrigation has been introduced. Now, the major task lies in motivating the farmers to adopt the pulse production also just like the wheat and rice. Similarly, there is a need to introduce short-duration varieties of pulses both under irrigated and unirrigated conditions. This will help greatly in increasing the pulse production in Eastern Uttar Pradesh.

As far as cereals production is concerned there is adequate production in the study region. There is no any shortage of cereals in Eastern Uttar Pradesh at present. It has been possible mainly due to the high yield and higher growth

rate of production by the new agricultural technology. But this adequate food grain production is not available to all the people at all times for an active and healthy life. Poverty has been one of the major causes for this poor food security. More than seventy percent population lives in rural areas and is engaged in agricultural activity. This population, by and large, is characterized by dirt, disease, mul-nutrition, ignorance illiteracy, lack of resources for improvement and development and a very low rate of capital formation, considerable unemployment and more under employment and very low percentage of rural people to take advantage of science and technology because they have neither resources nor the adequate knowledge. Acute and chronic under nutrition and most macro nutrients deficiencies primarily affect the poor and deprived people who do not have access to adequate food, live in unsanitary environment, without access to clean water and basic services and lack of access to appropriate education, capital, communication and information. In developing countries, where approximately 2/3 of the population lives in rural areas, increased production of food for family consumption or as a source of income helps to stabilize food price and improved marketing facilities can also contribute the food security.

Thus, there is a need to improve the socio-economic conditions in rural areas and it will ultimately offer an opportunity for better income and employment generation, so that the poor can have access to food.

No doubt study reveals that in Eastern Uttar Pradesh socio-economic development is also found but it does not keep the pace with the agricultural growth and population growth.

In some districts such as Gorakhpur, Allahabad, Varanasi, Azamgarh, Mirzapur and Sonbhadra it was high while in other districts it was moderate and low.

Thus after identifying the districts to the levels of the development different strategies of development should be persuaded in order to develop the districts at a faster rate of growth, to bring down the regional disparities and to increase the income and employment opportunities so that poor can have an access to food. The major thrust of planning should be on the development of all sectors in all the districts at a faster growth rate than the rate of population growth. Thus, the proper balanced regional development strategy should aim at increasing the rate of growth in all sectors of all districts and at the same time the gap between the highest and the lowest district comes closer and closer. Similarly it would be in a position to achieve political, economic and socio-cultural harmony and stability and can achieve a very high level of development.

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Dedicated
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CERTIFICATE

This is to certify that Mr. Jamshed Ahmad Khan has pursued his research work and completed his thesis entitled "**Identification of Backward Area and Planning in Eastern Uttar Pradesh - with special reference to food-security**" *under my supervision.*

This thesis is being submitted to the Aligarh Muslim University, Aligarh for the award of the degree of Doctor of Philosophy.

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CONTENT

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(Jamshed Ahmad Khan)

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INTRODUCTION

The process of economic growth involves a significant change in the economic activities over different regions or areas along with a change in the structure of the economy. This process reflects a spatial dimension in the process of growth. It has been successful in some areas where as some areas has continued to remain backward in the sense that the pace of development has been far below than the rate of development in other areas. This has led to think whether, there has been something wrong in the design of development pursued in the earlier years or there is a need for a special kind of design of development for such backward areas. Therefore when development over different areas occurs, unequally, it becomes a crucial from all angles- political, economic, social and ethnical considerations. An unchecked and uncontrolled process of growth, leading to regional imbalance, results in numerous economic, social and cultural problems. These problems take a serious shape and subsequently become hard to eliminate. The inequalities, lead to incomplete utilization of resources and to a growth of public costs involved in functioning of its economy. In the developing countries, the regional factors cause many economic and social-problems. Regional imbalances lead to under-utilization or even to non-utilization of economic resources both natural

and human. In countries like Pakistan (East vs West) and Indonesia (Java vs Other Islands) regional economic and political problems proved too critical and infact resulted in the bifurcation of Pakistan in 1971. In India also there is regional imbalance in north and south. Similarly within the states there is imbalance, eg. Uttar Pradesh is divided into Western Uttar Pradesh, Central Uttar Pradesh and Eastern Uttar Pradesh, on the basis of economic, political and resource problems.

Once the disparities are established, they get accentuated. It is a well known fact that the region or area which is already developed attract more activities, by virtue of their location in developed areas. This leads to unequal growth. Once the unequal rates of growth develop, they will tend to perpetuate themselves due to the economies of concentration. Thus even though regions get developed initially due to natural advantages or historical reasons, they will keep on growing because of the advantage of concentration.

During the process of growth due to concentration effect, the growing region also spreads some of its dynamism to other areas and leads to centrifugal effects. But such effects are

rare. More often such regions extert centripetal forces and drain the marginal areas of any growth potential they might have had. Thus the developed areas grow faster at the cost of less developed areas. If the situation is such that centripetal forces are getting accentuated equity considerations demand government intervention and government action to reduce regional disparities and to check the centripetal forces exterted by the developed regions.

Thus there is a need to reduce this regional imbalance. For this, the first important point is interm of social justice. It is believed that income inequalities can be reduced by way of reducing regional disparities. The social justice demands that all citizens are treated alike and given an equal opportunity in life. Therefore, it is important to bear it in mind that an individual should not be made worse off one area and better off in another. This is possible only when inter-regional disparities in the levels of development are ironed off. Similarly reduction in regional imbalances is crucial even from the point of accelerating the growth of the economy. There is a sort of complementarity between reduction in regional disparities and accelerated economic growth. It is empirically tested that the poor countries are characterized by large and growing regional disparities and the rich countries are generally characterized

by small and diminishing gaps. Therefore reduction of regional imbalances is essential from the point of maintaining national integration, political stability and unity also. If it is neglected and unchecked then these disparities are capable for serious dimensions, and threatening the very existence of a nation.

In the context of reduction of regional disparities, the concept of backward area/region, its identification and measures of the extent of backwardness, need to be understood clearly. Any strategy adopted for backward area development has to begin with the identification of regions according to their differential levels of development. Next task is to formulate policies, programmes and plans based on the regional characters, their requirements and their capacities. The strategy that is required is one of promoting that sector, which is backward and whose backwardness is hindering the overall progress of the region.

Thus in order to achieve the objective of promoting the growth rate in backward areas/regions and to reduce regional disparities it is essential to identify regions according to the levels of development and to assess the relative positions of the regions and to delineate homogeneous areas/regions, so

that for different type of regions, different strategies may be adopted.

In spite of the increasing awareness of these aspects and growing importance of micro-level plans, very little has been done in the field of regional planning in India. Systematic attempt of identification of backward areas/regions and a study of physiographic, and socio-economic structure and typology of development has not been done on the scale that could be of any operational significance. Any attempt of this problem is confined only to the state or district level.

District level studies are very lacking in the country. In the name of identification of backward areas/regions, very crude and partial indicators of development are used to identify regions at the state level or district level. In the name of district level plans, what we have some employment schemes, which cannot be taken to replace a comprehensive district plan. These programmes do not go beyond fixing some targets and these target percolate from the top administrative unit.

In recent years we have been made more aware of the problems of agricultural development especially the self-sufficiency in agricultural production in general and food-

production in particular. The achievement of self-sufficiency implies that the level of domestic production is atleast adequate to meet the basic needs of the existing population. Secondly, development of agriculture is of a great importance for the overall economic development of a country like India, where more than 70 percent of people directly or indirectly are engaged and dependent on agriculture as well as its large share in national income.

But this sector of economy has different dimensions of problems i.e. explosive growth of population and slow rate of growth of food crops production as well as regional variations in levels and growth of food-grains production. The most aggravating and serious situation in agricultural economy is an uneven distribution of agricultural land which causes wide-spread poverty and food problems among a certain group of farmers which is known as disadvantageous groups in rural community. Thus the problem of food production and to achieve food self-sufficiency level is a complex one. A number of investigation programmes have been made by Indian Council of Agricultural Research, National Council of Applied Economic Research, Planning Commission, Food and Agricultural Ministry and various other organizations and research institutes, but still the problem is to be solved.

Considering all these aspects, the author selected Eastern Uttar Pradesh to study the levels of development in different districts of Eastern Uttar Pradesh during the period 1981 to 1998.

OBJECTIVES:

In the present work, an attempt has been made to study the regional co-operation for the social well-being of the people of Eastern Uttar Pradesh. The Eastern Uttar Pradesh is taken as the study area because it is one of the most important agricultural area of Uttar Pradesh and about two-third rural population is engaged in agricultural activities. Keeping this in mind, a detailed study of Eastern Uttar Pradesh is under-taken to see the socio-economic development in different fields such as the regional poverty, availability of basic needs of the population, development of economies and the use of resources and potential of the region and growth of the regional self-reliance in different districts of study region. The basic aims of the study are :

1. To identify the factors responsible for inter-districts variations in the regional development and trends of planning.

2. To study the development of agriculture and infra-structural facilities in Eastern Uttar Pradesh.

3. To study the socio-economic development ~~like~~ industries, education, health, co-operatives, banks, communications, power and transportation etc. in the study region.

4. To estimate the levels of production of food crops and to find out the per head share of food grains with the positive and negative areas of food availability.

5. To assess the demand and supply of food grains in Eastern Uttar Pradesh.

DATABASE:

For a successful planning and analysis of various problems data are essential. Regional development is a complex problem, therefore collection and sources of data should be reliable and upto date to achieve accurate conclusion for decision making and future planning. Without the knowledge and clear under standing of the comparatability of data over times as well as pit falls and the gaps ~~one~~ may lead to faulty results.

In the present study, the data has been obtained from the published literature, government reports and state

statistical bulletins, district statistical bulletins, daily and weekly newspaper, unpublished records of the public administration and semi-government agencies. The sources of data utilized in the present study are enlisted below:

1. Survey of India Topo-sheets.
2. Census of India.
3. State Administration Statistical Bulletin.
4. Uttar Pradesh, Agricultural Statistical Bulletin.
5. Economics and Statistics Division, State Planning Institute, Uttar Pradesh.
6. Districts Gazetters of different districts of Eastern Uttar Pradesh.
7. Department Districts Head Office records.
8. District Census Handbook.
9. Conference proceedings, Newspapers and other periodicals.

METHODOLOGY:

Methodology in any study is generally dependent on the objectives and database of the study. For the present work a number of methods, analysis and techniques have been used. For instance to measure the regional disparities and social-

economic development "Composite Index" technique has been used. This technique has been used to determine the levels of development in different districts of Eastern Uttar Pradesh. For this, author has selected nine sectors namely:- agriculture, industries, education, transport, health, communication, banking, power and co-operative societies. Data of these nine sectors is collected for the years – 1981, 1991 and 1998. Similarly, to find out the level of food self-sufficiency in different districts of Eastern Uttar Pradesh percent growth rate of area, production and productivity of cereals and pulses for the period of 1981 to 1998 is calculated. On the basis of this calculation it is estimated that whether the districts have per head surplus production or they have deficit production. On the basis of these results future suggestions have been made to remove the regional disparities and to achieve self-sufficiency in the study region.

HYPOTHESIS:

1. Developed areas are self-reliant in food grains.
2. Development is uneven.
3. Levels of infrastructural development are reflected in the socio-economic conditions of the people living in area.

4. Inter-districts disparities exist in the levels of development.

The present work is divided into two parts and five chapters.

Part one comprises of Introduction and chapter first and second. Chapter first deals with the problems related to backwardness while chapter second deals with the concept, strategy for regional development and planning and role of planning.

Part two includes chapter third, fourth and fifth. Chapter third makes an attempt to analyse the physical features, drainage, climate and soils of the study area. Chapter fourth is devoted to study the socio-economic development in different districts of Eastern Uttar Pradesh. Similarly the last chapter presents the concept of food-security, supply and demand of food grains and surplus and deficit in food availability in Eastern Uttar Pradesh. On the basis of above study, conclusion and further suggestions have also been made for the entire region.

Chapter - I

BACKWARD AREA DEVELOPMENT

1.1 THE CONCEPT OF BACKWARDNESS:

The concept of "Region" or area as a means of economic growth and guaranteeing the sharing out of the fruits of material and social progress among the people living in all parts of a country is increasingly becoming relevant in modern society. Areas classed as "Backward" are treated as particular areas or districts or groups of districts having bordered topological space and facing particular locational problems such as grim poverty, unemployement, low income etc.

Before discussing the strategies for development of backward region and to minimize regional disparities, it would be appropriate to understand the concept of region. The term 'region' is closely associated with the concept of 'area' or space. The term region is used to mean different spatial units by different persons. Thus it has been used to mean a resource region, programme region, metropolitan region, depressed region, planning region and so on. The region can also mean an agronomic region, drought-prone region and likewise, depending upon the particular features of the area.

Traditionally, there are three ways to define a region. One deals with the homogeneous characteristic, usually a combination of spatial and economic aspects of a region;

second analyses the polorisation around some market or urban place within a region; and the third works out a coherent relationship between the existing administrative and political set up and the policy decisions. These attempts to identify a region are respectively based on homogenity, nodal and programming criteria.

A careful examination of the above concepts reveals that they are not completely independent. In fact, some sort of intra-dependency is there. The programming regions do have homogeneity and also posses some nodal points. For policy purposes and for planning purposes, it is the third definition which appears to be more acceptable. An ideal region/area is one with the following characteristics:

a. Geographically, it should be a contiguous unit though, it could be sub-divided into natural boundaries like plain, hilly track etc.

b. The people of the region/area should have social and cultural cohesion.

c. The area/region should be a separate unit for data collection and analysis.

d. The region should have an economic existence which can be assessed from statistical records.

e. It should be under one administrative agency.

f. It should have a fairly homogeneious economic structure, the variation in local proportions of employement and output in agriculture, industry and services should be within a narrow range. It should be topographically relevant. ~~more or less homogeneious in~~ topography also.

g. It should have one or more growth points.

h. There should be common appreciation of local problems and common aspirations and approaches to their solution. It should permit and encourage competition but not rivalry between one and the other.

If we examine the above characteristics, the administrative unit, whether at the national level, state level or district level appears to satisfy most of the characteristics of a region. A comprehensive district plan should be formulated on the basis of an assessment of growth potential of a region; on the basis of natural and human resources available; and the immediate need and aspiration of the local people with the help of their knowledge. Such as attempt at district level planning or regional level planning which is very much lacking

at present, needs to be based on proper identification of differentially developed regions having different typology.

Minimisation of disparities does not mean a straight transfer of the fruits of prosperity from a resource rich area to a resource poor area or from a developed to a backward area/region. Such transfers can only be temporary, and the producing areas will continue to produce and consuming areas will continue to consume with no chance of an even exchange. This will rather widen the disparities in the long run.

Similarly, reduction of regional disparities does not mean to establish manufacturing or other activities in those areas where there is no adequate resource base. If it is done, the goals of economic efficiency necessary and essential for the progress of the country will be jeopardised. It also does not mean that regions which do not have facility for accommodating productive activities are permanently deprived of the benefits of prosperity arising from industrial production. In fact, apparently there is a conflict between the goals of growth on the one hand and social justice on the other hand. Reduction in disparities require a balance between the two goals. Regional disparities can be brought down in the real

sense when all regions are encouraged to exploit their own development potentials and formulate development plans suitable to their needs, potentials and aspirations. If backward regions are helped by this way, they will have an opportunity to overcome their inherent weaknesses and achieve higher rate of growth. What is necessary is the organisation of economic activities at all levels and sectors interacting upon one another so as to produce an aggregate growth rate which will help to remove the bottlenecks in the backward area/region.

The backward areas in the west have been marked by some of the following characteristics : low density of population, a high rate of population (labour force) growth, a low participation rate, massive emigration of population because of the lack of employement opportunities, a rate of unemployement higher than the national rate, slower rate of economic growth resulting in a per capita income lower than the national average, monolithic occupational distribution of population, predominance of small farms, decline or slow growth of the old and non-viable industries and trades consequent upon the depletion of natural resources or intensification of competition from outside, a lower average productivity in all economic activities due to a lower command of the volume of economic goods (e.g. infrastructure, social

services, capital, credit facility know-how, economic information etc.), a lower level of welfare enjoying by the resident population, economic dualism in certain cases revealed in a developed but limited core area composed of a few industries, which have practically remained as enclaves without generating their spread effects, co-existing with an extensive undeveloped periphery having few secondary activities, almost impoverished by its backward effects on account of the exodus of productive resources.

The factors that assist or obstruct economic development and accelerate or retard its pace are always the same whether they relate to a single area or to the whole country or to a group of countries comprising a continent. Beside this the process of economic development is uneven in time as well as in space.

Myrdal (1957) says that in the absence of state intervention the market forces tend to increase rather than to decrease the income disparities in the income levels between areas.

In an under developed country the regional disparities look large because the pace of progress in it has been slow. Whatever, industrialization has already taken place in such a

country is at a low level and is very unevenly distributed. Geographically, In India, the development has been clustered around a few nuclear regions. There has been no visible signs of the spread around them, the benefits of development has not been equitably distributed over each state or region and in certain areas the entire population has been classified as backward.

Backwardness have been characterized by a syndrome of collective poverty. An analysis of the problems of backwardness and regional disparities reveals that, there are three important factors; historical, uneven distribution of natural resource and social, political and economic. As far as the historical factor is concerned, it is said that in the under-developed countries, the regional disparities can largely be due to either the initial advantages enjoyed by some regions or areas or to the less concieved public investment programmes effected under colonial rule. Thus the regions which attracted faster growth rate became developed region. The second factor is the uneven distribution of natural resources. The areas, which are well-endowed with the natural resources like water, fertile soil, forest etc., with a little efforts can be developed at a faster rate. Similarly, the third factor is related with the human activity. Here social, political and economic aspects

play very important role in the backwardness and regional disparities in any part of the world. For example, a region is rich in natural resources but lacks of conscious efforts of development, lack of entrepreneurship, lack of efforts of acquiring skill and lack of motivation lead to regional disparities and some regions continue to remain backward.

1.2 DESIGN OF BACKWARD AREA DEVELOPMENT:

The world "development" reflects a change. Any stage of change, whether it is negative or positive, is development. Conceptually, the term development is the state of change from a given situation of a region to become a better position within the given period of time. It shows that the change in positive direction is a basic component of development. On this basis, Galbraith (1962) recognise three types of economic development, that is (i) Symbolic modernization (ii) Maximized economic growth and (iii) Selective growth.

If the state of change in any given region is the result of the normal ongoing activities of the region, it may be termed as natural or normal state of development. But, when the planned efforts are made to attain a desired level of change, it is the function of the process of regional development planning. Thus, it is apparent that development is the function

of planned efforts for the improvement of the regions. Development is not a single-function approach to ensure welfare to the society. There are multi-dimensional changes which follow the socio-economic development of the regions. Development consciousness among individuals is as much necessary as it is for the state, because some tangible achievements can be obtained in any branch of economy.

The concept of development is not related merely to quantitative aspects, but is also related to qualitative assessment. In its qualitative aspect it coincides with the welfare objective. It is not enough to observe what is produced and distributed but economic development should also boost economic and social welfare. In comparing the poor nations with the rich countries one should take into account the population growth, real per capita income, and socio-economic welfare. However, the concept of welfare involves value judgement regarding various aspects, but it still cannot be neglected altogether. Thus, it is obvious that development means an upward movement not merely of national but also of the entire social system.

The process of planned economic development in the country, for the last fifty years has been successful in some

areas, where as some areas have continued to remain backward in the sense that the pace of development has been for below than the rate of development. This has led to the thinking whether there has been something wrong in the design of development pursued in the earlier years or there is a need for a special kind of design of development for such backward areas. The five year plan 1979-84, has laid emphasis on area development and naturally the question of design of develpment of backward areas has assumed special significance in the early stages to the structuring of investment in the various sectors of the economy so as to increase the level of its per capita income. Such discussions related naturally to the aggregate volume of rates of investment, capital intensity and the rate of population increase. The mobilization of financial resources and their development in investment, constituted the basic aspect of such a design of development. The consistency test required the pattern of investment in aggregate to be equal to the total available resources mobilization through domestic and external sources. The finance was taken to be the constraint of economic development.

The design of development for the economy as a whole was being discussed. There has been reference for

development of backward areas in the economy in the various plan documents. The discussion of the development of backward areas has been in the context of bringing about a balanced regional development and removing regional disparities. It was recognized in the second five year plan that in any comprehensive plan of development, it is axiomatic that the special needs of these less development areas should receive due attention. The second five year plan document however recognized that the problem of balanced regional development was particularly difficult in the early stage when the total resources available were very inadequate in relation to needs. But more and more development proceeds and large resources become available for investment, the stress of development programme should be on extending the benefits of investments to under developed regions. The emphasis on balanced regional development was reflected in the policy relating to the location of new industries. Although some industries had to be located in particular areas in view of the availability of the necessary raw materials or other natural resources, but there are other industries in regard to the location of economic consideration. There is a field of choice and it was clearly laid down that often the disadvantages of

comparative cost are only the reflections of the lack of basic development.

The third five year plan document provides a separate division for balanced regional development. It was recognized that increase in national income and more balanced development were related to one another and step by step it become possible to create conditions in which resources interms of natural endowment, skill and capital in each region were fully utilized. Some regional factors such as those connected with physical features and geographical location cannot be altered but there are other which can be influenced by raising the levels of education and skill, developing power and generally by applying science and technology on a large scale.

The third five year plan also relied on the proper framing of the state plans, the size and pattern of their outlays for reducing the disparities of development between different states. In addition to the role assigned to the plans of the states, there were several important features in the third plan which were expected to enlarge the possibilities of development in areas which had in the past been relatively backward. For instance, intensive development of agriculture, extension of irrigation, village and small industries, large scale

development of power, development of roads, communication and transportation, provision for universal education for age group 6-11 years, improvement in conditions of living and water supply etc. were expected to go a long way to provide, through out the country, the foundation of rapid economic development.

The fourth five year plan considered that the problem of imbalance in development in different states arise from, ~~out, due~~ to variations in the activities of three sectors viz, co-operative, public and private. Development of co-operative sector depends on the strength and coverage of co-operatives in the state. It is more important in the co-operative obtaining financial assistance from national financial institutions such as the Reserve Bank, or the Agricultural Refinance Corporation or Life Insurance Corporation. Private sector activity depended on the extent of entrepreneurship within the state and the resources commanded by it and the infra-structure and the development within the state conducive to development of such activity. The availability of resources with Government of the state for planned development was considered to be the heart of the matter.

The directions in which the centre could help the state were delineated as (1) allocation of central assistance (2) location of central projects and (3) adjustment in procedure and policies of national financial and other institution.

The fourth plan took a comprehensive view of the factors for backwardness and proposed that a multi-directional area development programme should be adopted in order to accelerate the development of backward areas. It was maintained that since each backward area represented a unique combination of factors, it was recognized that no uniform programme could be successfully conceived and imposed on a national level and it was therefore felt that there was the need for evolving appropriate location specific strategies based on careful identification of backwardness as well as the potential available for development. Backward areas were classified into two categories viz, (1) Areas with unfavourable physiographic conditions having inhabitants of typical cultural characteristics (2) Economically backward areas marked by adverse man land-ratios, lack of infra-structure or adequate development of resource potentials. The backward areas provisions were made for proper identification and devising of meaningful programmes on the basis of location specific strategies. Schemes of Small Farmers

Development Agency (SFDA), Marginal Farmer and Agricultural Labour Development Agency (MFAL), were introduced in selected 46 and 41 districts, respectively. District plan formulations were encouraged and 229 districts were identified according to some determined criteria as industrially backward and were made eligible for confessional finance from the all India term lending institutions at lower interest rate and longer amortization period.

The policy for the fifth plan with regard to the development of backward area was formulated on the basis of three considerations. Firstly, it was recognized that the problem of backwardness was a long term problem which could be tackled only over a long period of time. Secondly, the allocation of financial resources was only one of the many measures necessary for the development of these areas. The other essential measure are the evolution of locally oriented integrated strategies, strengthening the co-ordinated functioning as financing and reorientation and where necessary restructuring of the field organization to suit the functional requirements of the identified development programme. Thirdly, states would have to continue to bear the main responsibility for development of their backward areas though central government would actively participate in this task by

making special allocation for hilly and tribal areas and also by (i) providing technical support in respect of planning and programme development (ii) channelizing institutional resources on a priority basis (iii) continuing and further extending the liberal patterns of central assistance and (iv) providing special incentives for the flow of private investment, to identified backward areas. One of the significant measures taken in the fifth plan for reducing the regional disparities was the launching of the programme of minimum needs with an outlay of 28.3 crores. By this programme, it was proposed to improve the condition of market deficiencies of social consumption in backward area by extending facilities for elementary education, rural health nutrition and water supply, rural roads rural electricification etc. The programmes for small farmers and marginal farmers were proposed to be continued in 160 districts of the country.

The preferences were according to backward areas in the matter of licensing investment and concessions were allowed by way of capital and transport subsidy and the special mechanism for identifying investment opportunities was set up. The experience with large industrial projects shows that their spread-effects are low and the surrounding areas continue to remain poor and under developed. As regard the

incentive schemes, for promoting development, in backward area the plan document maintained such incentive schemes to promote industrial growth in sections of backward areas which need to be examined to assess their cost and effects in promoting overall development in the areas concerned.

The barriers to development in backward areas are such that, according to the plan document (1978-83), an integrated approach is required. Such integrated approach underlies the proposals of rural development. The proposed provisions for integrated rural development are planning and minimum needs for all areas in the country. It is expected that forward areas, however defined will be amongst the principal beneficiaries for these provisions. The plan document further maintained that problem of backwardness cannot always be tackled at village, block or district level.

The plan document emphasizes that it is intended that some point of the provisions for integrated rural development and area planning will be used to promote those measures that will enable the region to benefit fully from the other sectional and area development programmes and to utilize fruit fully investment funds in the private and banking sectors. The design of development of backward areas under the five

year plan (1978-83), is intimately connected with the schemes of integrated rural development and the area development programmes. The strategy for rural development in the plans has been the integrated rural development. Experience of various plans has shown that a more project approach or a sectoral approach is not adequate to an overall development of the area. Different areas at different levels of development have varying degrees of potentials depending on local endowments.

The strategy of development of backward areas under the various five year plans, indicates that there has been the recognition of the necessity of evolving a district strategy of development of such areas. But there has been variation in the emphasis on the design to be followed for achieving the said objective. While the emphasis in the earlier years has been on bringing about balanced development by encouraging the setting up of industrial units especially of the large size in the expectation of their spread effects, while the later years saw the shift towards specific schemes for so-called backward areas for improving the conditions of small farmers, marginal farmers and the agricultural labourers and also for improving the productive activities of backward area. Five year plans indicate that schemes of integrated rural development and the area

development programmes will take care of the problem of development of backward areas.

One obvious short coming of the approaches to the problem of development of backward areas appears to be lack of uniformity in the approaches. There have been changes not only in the strategy of development but also in the very concept of development to imply that the backward areas mean only rural backwardness. The earlier approach to the development of backward areas with the emphasis on generating industrialization took care of development areas might tend to impede the future development of the backward rural areas by creating bottlenecks in marketing and communication.

It is necessary to take cognizance of the useful functions that towns and cities render to the life and activities in the villages which are their lower order dependent, settlements. The growth centre concept recognize the integration of the rural urban settlement into an organic functional mechanism. Franis Perroux (1950), the well known regional planner, mentioned that development manifests itself with varying intensities at favoured points from which, depending upon the circumstances, it tends to propagate outside with variable

final effect for the economy as a whole. The design of development of backward areas does not spell out clearly the role of financial intermediaries and the pattern of financial intermediation which is to be conducive and instrumental in generating and accelerating the rate of economic development in the backward areas.

The financial resources is the most crucial factor in bringing about development in backward areas. The accelerated rate of economic development in backward areas requires the flow of financial resources from the relatively affluent areas to the backward areas under such circumstances that there is the normal tendency of flow of financial resources mobilized by the banking and other financial intermediatries in the backward areas.

One can clearly see the direct relationship between the flow of resources from the banking and other financial intermediaries and the rate of development in the different regions in the country. Such institutions have preference for the developed states, developed metropolitan centres, and other urban centres in the matter of lending of financial resources. The risk of lending in the backward areas have to be covered and clear quota of the lending is fixed for the

banking and other financial intermediaries for advancing to the backward areas.

One of the important arguments advanced by the banks and other financial intermediaries is the lack of entrepreneurial ability in the backward areas and such lack of entrepreneurial class is more the effect than the cause of backwardness.

The development of human resources plays a significant role in the improvement of backward areas. This is because in the absence of proper development of the human resources no effort for development is likely to yield fruitful results. The development of backward areas is not possible with insufficient labour force and untrained entrepreneurial class. The programmes for development of education together with the assured flow of financial resources from the developed areas have to be the essential ingredients of the design of development of backward areas.

Chapter - 2

PLANNING IN BACKWARD REGION

2.1 THE CONCEPT OF PLANNING

Basically, planning is the term given to that contemplated process of thinking on the basis of which human efforts – Physical, mental and economic are made to ensure socio-economic development according to predetermined objectives. This basic definition of planning invites much more conceptual explanations and clarifications, as the man made efforts on the one hand, and socio-economic development on the other, have a conspicuous scope of thematic considerations. Specially, planning implies a process of conscious and deliberate centralised economy for transforming the social structure and utilising the national resources in order to fulfill certain pre-conceived goals. Planning is such a technique for socio-economic development as an adjustable means to the changing pattern of socio technical environment of the society. Planning is the use of collective intelligence and foresight to chart direction, order harmony and progress in public activity relating to the human environment and ground welfare. Thus, it is apparant that planning requires a definite procedural structure well-composed of values, objectives, role factors, organisations and their clients and the aspects of co-ordination between individual and collective participants of planning. The success of planning for development, depends

upon the capacity of planning agencies at different administrative levels to co-ordinate the policies as well as direct and active participation of the people at large in the formulation as well as implementation of the plan. Therefore people's participation in institutions becomes necessary for successful planning. If the communities are functionally efficient, an anticipated people's participation can be ensured in fulfilling the basic goals of planning. On the contrary good public administration and sensible policies are said to be the most important secrets of successful planning.

In most developing countries, planning has invariably been restricted to the national level. The plan formulated in these countries are in terms of set of directives and goals for the orientation of the economy as a whole. The problems of regional development do not get adequate attention of the policy makers and as a result the development programmes of their countries with glaring regional disparities definitely have resulted in the lopsided and distorted development. Some of the already developed regions have enjoyed the privilage of development at the cost of the backward regions, which continued to stagnate. Regional disparities have started widening because of ill-conceived investment programmes effected under the colonial rule and also due to lack of

attention paid to the need for micro level plans. Therefore, far the promotion of balanced regional development, it is essential to devise suitable planning model and policies. It may be stated that one of the main objective of planning is to reduce the regional disparities in economic developments. For this, it is necessary to identify and evaluate population and physical resource base which would reveal the spatial or regional pattern.

Planning from the operational point of view, is oriented to the treatment of resources of the area concerned particularly to the functions of assessment of distribution, allocation, utilization, regeneration and perpetuation of resource endowments in the process of plan formulation and their implementation. However an ideal format of planning process requires some basic considerations to be taken into account by the planners, such as geographical zoning of socio-economic pursuits, setting of production targets, means of attaining the targets, a decision for future investments, follow up action of central plan and an arrangement of inter-sectoral resource allocations.

The economists, in general and other social scientists in particular, suggest a set of pre-requisites of successful

planning in under developed and developing countries such as existence of central planning authority, strong and efficient government, honest and sound administration, fixation of objectives and targets, adequate statistical data, well formulated and integrated plan; socialistic economic organisation, mobilisation of financial resources, flexibility in planning, public co-operation, economic controls, maintenance of proper balance, proper development policy, economy in administration, proper education and the thoery of consumption. The study of regional planning is necessary to understand the process of regional development and the spatial incidence of economic growth. Planning was conducted largely at the sectoral level and it is only since 1992 that the development of a systematic approach to regional planning has commenced. Both geographical research and planning technique have been accepted as an integrated approach. However, the definition and concept of regional planning and approach to regional planning vary. Glasson (1978) considers regional planning as "the allocation of resources between regions to achieve certain regional and national objective". He has explained the concept of planning and differentiated between physical and economic planning, allocative and innovative planning and indicative and imperative planning.

The concepts of regional planning and the approaches adopted have been changed with time and exposure. In India, regional development and planning began with macro-regions and shifted, recently, to the micro-regions. The preliminary study on regional development in India was attempted by L.D. Stamp. He classified the country into three major natural regions and 22 sub-regions. Stamp's approach was revised by O.H.K. Spate. He laid emphasis on the re-organization of boundaries of regions for achieving greater efficiency in planning. However studies focussed on macro-regional planning based on centralized administrations. Such macro-level plans have obviously overlaboured the peculiarities of the region. This was a blatant mistake because different areas have different growth potential and such mistakes, where inequalities tend to get ignored, are most likely to occur when the scale of operation is large. If output of production is taken as a yard stick, the country has benefitted from the development plans. But they had other impacts. It may be noted that the prevailing system of development planning have widened the existing inequalities and sharpened. L.S. Bhatt in 1972 stressed the regional co-ordination and integration of both physical and economic plans for effective regional planning. He has also emphasised the importance of the

concept of regional hierarchy in resource planning particularly for a country like India where one can see the unevenness in the distribution of resources and sharp contrast in regional characteristics and problems of development.

Philip Cooke's (1983) work on "theories of planning and spatial development" is another contribution to this field. He claims that the sectoral approach to planning has resulted in its failure, which necessitates the development of an integrated theory of the relationship between planning and spatial development. Similarly, Siddiqui F.A. (1984) has given the growth emphasis on regional planning and regional approach on the population policy and utilization of human resources. He also worked out various methodologies and models for regional planning.

Sundaram (1979) claims that the oversight of the spatial dimension in planning has led to sharpening of regional imbalances. He concludes that in the administrative structure of our country, the districts are the most feasible unit of local planning. They are most viable geographical units for carrying the benefits of development to the more backward sections of the people and regional as well as increasing economic productivity and strengthening of the rural economy. It has

been found that now emphasis on district and block plans have been increasing.

Mishra, R.P. (1982) has discussed the task of district planning and the importance of people and grass root level development from below. The consideration of geographic, socio-economic, institutional, political and need-based issues are of primary importance. The claims especially for purpose-full and effective planning, Nanjundappa, D.M. (1981) has offered some techniques of decentralized planning.

A format for "Database on village level indicators" was first issued by the planning commission in Febraury 1987 and again September 1989. Minhas (1989) too forwarded his concept of database for local level development. His methodology and database is tempered by an integrated and holistic approach and toward decentralized planning. A basic requirement in this endeavour is the purpose full transfer of plan funds from a state to its constituent districts and from district to its block units. This devolution of resource must enable a region to realize its growth potential, its development constraints and fill spatial gaps in its infrastructure base. Gopal Krishan (1989) strongly feels that such a transfer should follow a positive trend in favour of backward districts.

Most of the studies and research in general suffered from non-availability of information and sometimes even availability of unreliable information. Government initiative to tackle this issue has not been a failure. The District Information System of National Information Centre under the Planning Commission (DISNIC) and Computerization of Rural Information System Project (CRISP), under the ministry of rural development, are two projects set up by the Government to provide a good deal of informations for district planning.

Thus, the concept of development and approach to regional planning was re-assessed and emphasis has shifted during 1980's from purely sectoral development to integrated development. Today development is centered on man (D'Souza, 1990). Equitability of opportunity, positive transformation, deep rooted and engulf mobilization of local resources and general self reliance for self sufficiency are matter of focus.

2.2 THE STRATEGY FOR REGIONAL DEVELOPMENT AND PLANNING

Regional planning is a frame work to bring out a plan for maximum utilization of resources without causing any wastage. Basically, regional planning is a spatial development planning, which on the one hand, is the process of formulating and clarifying social objective in the ordering of activities in supra-urban space, and on the other hand, it is concerned with the human activities for socio-economic transformation in supra-local space in an agriculture-based backward rural economy. In spatial context, the orderly development of the region and its finer articulation with other regions is the task of regional planning. Therefore regional planning is suggested for the all round socio-economic development of the backward countries against the single national-level sectoral planning because the space in which human being live and work is real, and to ignore the space and its community is to ignore the basic reality.

Regional planning is such a strategy which deals simultaneously, with the problems of multi-levels spatial units directly or indirectly. However regional planning would seem to require a bunch of complementary economic activities and

rules be formulated for the purpose setting of each of these activities. In an area for regional planning, the different regional factors interact and operate in mutual actions and reactions and any change in one normally leads to changes in other, thus setting up a chain reaction. In fact, there is a two-way chain reaction. One internal within the region, and the other external with the neighbouring or farther regions, through the different hierarchical levels of regions.

The basic aim of regional planning is outlined for smooth development of the entire economy by making an even rate of economic development, optimum resource utilisation and preventing of wealth- and power-concentration of few hands, and leading to equitable distribution of employment opportunities. Further, an objective of regional planning is to anticipate and provide for future reciprocal adjustments of culture and region in different ecological areas. The purpose of regional planning is not the physical development alone of a particular area or region, but it is to attain certain social objectives eliminating inter-regional tension and socio-economic imbalances. Regional planning is an attempt to plan a rational dispersal of industries ensuring better securities and defence and to ensure optimum pattern of resource

allocation leading towards balanced and integrated regional development of the country.

Before going to formulate or implement a regional plan, a planner essentially should have complete knowledge pertaining to the conditions required for a successful regional planning. For regional planning three prime considerations become important for its successful performance such as (i) identification of the specific needs of the region within the overall context of the needs of the entire country (ii) an accurate assessment of the limits and opportunities imposed on natural resources of the region, and (iii) selection of suitable strategy for development.

Since the nature and causes of backwardness are not the same in all the regions within a country, a single macro-level approach will not be an ideal solution. The strategy that is required is one of promoting that sector which is backward and whose backwardness is hindering the overall progress of the region. Such assessment is possible only at the regional level. Development of backward area and reduction in regional disparities depend upon the micro-level plans formulated on the basis of the assessment of the local needs, potential priorities and realised level of development. The micro level

plans can be effectively implemented and can be made to realise the desired objectives only when the constituents regions are systematically identified according to their levels of developments, the extent of disparities among the regions and the various regional characteristics like typology, physiography, demographic and socio-economic dimensions and so on.

The Government of India has made some efforts for the development of backward areas of the country, since 1951, when efforts at planned development were intensified. The problems of regional development and disparities attracted the attention of policy makers and economists. The third five year plan and the subsequent plans have increasingly emphasised this objective. However, in spite of the increasing awareness, very little has been done in this direction. A systematic attempt at the identification of backward areas and a study of the regional characteristics has not been done on a scale that could be of some operational significance. Any attempt in this field is confined only to the state or district level.

However, Indian planners have become increasingly concerned with the problems of regional disparities since the formulation of fourth five year plan. Some steps were taken in

the direction of regional development. During the fourth plan, the problem of regional disparities was attempted at three angles. First reduction of inter-regional difference through fiscal policies. Second, development of resource frontier region and third, local planning. However, as stated earlier, the performance of the policies was not very encouraging. Therefore in 1968 the National Development Council decided to give some weightage to backward areas in transfering the resources from the centre to the respective states. For this, by the decision of the National Development Council, two working groups – the Pande Committee and the Wanchoo Committee were set up by the Planning Commission in 1968. The Pande Committee was to recommend the criteria for identification of backward regions and the Wanchoo Committee was to recommend the fiscal and financial incentives for starting industries in backward areas. Thus in order to simplify the work of transfering resources from centre to the states, it was decided to identify backward regions of the country. Initially the criteria, to identify the backward regions, the level of per capita income was into consideration. But this was found to be quite inadequate. Therefore, in 1969 the Planning Commission appointed a study group to suggest some specific criteria for identifying backward regions. This group suggested

many indicators such as agriculture, Industry, education, health, power and so on for the identification of backward regions. However these criteria were too diffused and it was, therefore quite essential to select more precise criteria for the identification of backward region. The Pande Committee in 1969 did this work. The criteria were :

1. Districts outside a radius of 50 miles from large cities or large industrial projects.
2. Poverty of the people as indicated by low per capita income starting from the lowest to 25 percent below the state average.
3. High density of population in relation to utilisation of productive resources and employment opportunities as indicated by
    a. Low percentage of population engaged in secondary and tertiary activities.
    b. Low percentage of factory employment.
    c. Non and or under-utilisation of economic and natural resources like minerals, forests etc.
4. Inadequate availability of electric power or likelihood of its availability with 1 or 2 years.

5. Inadequate transport and communication facilities.

6. Inadequate availability of workers.

The study group appointed by the Planning Commission (Fourth plan 1966-1971) suggested 15 indicators covering (1) Density of population (2) Percentage of population engaged in agriculture (including agricultural labourers as percentage to total worker) (3) cultivable area per agricultural worker (4) Net area sown per agricultural worker (5) Percentage of gross irrigated area to net sown area (6) Percentage of area sown more than once to net sown area (7) Per capita gross value of agricultural output (8) Percentage of literate population, men and women (9) Percentage of school going children both boys and girls in the age group of (i) 6 to 11 years and (ii) 11 to 14 years (10) Number of seats per million population for technical training (11) Hospital beds per lakh of population and some of the criteria used by Pande Committee.

Similarly, in seventies, a number of area-specific schemes like Drought Prone Area Programme, Small Farmer Development Agencies, Marginal Farmers and Agricultural Labour Programmes, Rural Industrial Development Schemes etc. were taken up.

Then in sixth plan period, some concrete steps were taken in the direction of preparing block level plan. Of the total 5004 blocks in the country, 2000 blocks were selected for Integrated Rural Development Programmes and it was proposed to cover 300 blocks every years as to introduce block plan in all the blocks of the country over a period of 10 years. The main emphasis was on macro-level plans to eradicate the poverty in rural areas.

The objective of development of backward regions, now forms an integral part of the national development strategy. The draft of sixth-five year plan lays down a clear cut policy and presents an outline of programmes for the development of the backward areas. It is a heartening feature of this draft that the uneven levels of development in different parts of the country is partly responsible for the problem of poverty. Therefore it envisages an approach of integrated rural development for the backward areas and has ear marked an outlay of Rs. 28,000 crores for area development schemes including hills and tribal area plans. The approach in this plan to a great extent is on the development of agriculture, village and small industries, subsidiary occupations and related services through hill area, tribal area, revised minimum needs and area development programmes. The most important

aspect of this strategy is that the planners are now keen to adopt a selective approach with regard to the choice of industries. It has been rightly observed in this context that the promotion of industry as a tool for the development of backward areas requires a degree of selectivity about the type of industries promoted and the areas chosen for such promotion. However this plan document fails to spell out precisely the type of industries which suit different backward areas of the country.

Removal of poverty was the foremost objective of the sixth plan (1980-85). The strategy adopted in this plan was to move simultaneously towards strengthening infra structure for both agriculture and industry. Stress was laid on tacking inter-related problems through a systematic approach with greater management efficiency and intensive monitoring in all sectors and active involvement of people in formulating specific schemes of development at the local level and securing their speedy and effective implementation.

The seventh plan (1985-90) emphasised policies and programmes, which aimed at rapid growth in food-grains production, increased employment opportunities and productivity. Food grains production during the seventh plan

grew by 3.23 percent as compared to 2.68 percent in 1967-68, and 2.55 percent in early eighties, due to overall favourable weather conditions, implementation of various thrust programme and combined efforts of the government and the farmers.

Some of the salient features of economic performance during the eight five year plan indicate, among other things, (a) Faster economic growth (b) Faster growth of manufacturing, agriculture and allied sectors (c) Significant growth rates in exports and imports, improvement in trade and current account deficit.

In the 9th plan, besides the other objectives, Government also incorporated the Prime Minister Special Action Plan (PSAP) in the following areas (a) Doubling of food production and making India hunger-free in 10 years (b) Rapid improvement in physical infrastructure (c) National water policy (d) Social infrastructure, rural housing, urban housing, health care services, education, urban water supply and sanitation, rural water supply and sanitation and (e) Information technology.

The specific objectives of the ninth plan as endorsed by the National Development Council in its 48th meeting are

(i) Priority to agriculture and rural development with a view to generate adequate productive employment and, eradication of poverty (ii) Accelerating the growth rate of the economy with stable prices (iii) Ensuring food and nutritional security for all, particularly the vulnerable sections of society (iv) Providing the basic minimum services of safe drinking water, primary health care facilities, universal primary education, shelter and connectivity to all in a time-bound manner (v) Containing the growth rate of population, (vi) Empowerment of women and socially disadvantaged groups such as scheduled castes, scheduled tribes and other backward classes and minorities as agents of socio-economic change and development (vii) Promoting and developing peoples participatory institutions like Panchayati Raj Institution, co-operative and self-help groups and (viii) Strengthening efforts to build self-reliance.

In a country with federal structure, where there is a provision for the flow of fiscal resources among the states, where the federal government in empowered to control, there are various economic strategies that can be adopted for the development of backward region.

In a federal country, the problem of regional disparities can be resolved through the federal government financing

regional development. Through federal fiscal transfers, government can equalize the resources among various regions. These transfers can be in the form of devolution of taxes and duties, grants, grants in aid, loans, subsidies and subventions. In India, the policy frame work evolved in this direction with a view to minimize and, if possible, to eliminate regional disparities consisted in utilizing the constitutionally provided statutory transfers through the Finance Commissions and non-statutory transfers through the Planning Commission. This strategy is essentially useful at the macro and meso-levels.

The other method to reduce the regional disparities is to channelize financial resources towards the backward regions through the policies of various financial institutions like commercial banks, co-operative-societies, life insurance corporation of India, Industrial development banks, etc. Different rates of interest, different periods of repayment of loans and various other credit policies favouring the backward areas can also be adopted in order to reduce the regional disparities. Similarly, in order to develop backward area, it is important to attract the private entrepreneurs to the backward regions. For this, government can resort to such a licensing policy which may discourage the private entrepreneurs to invest in already

developed and congested areas and encourage investment in the backward area. Private capital will flow to backward regions, not by force but by incentives. Mere licensing policy cannot influence the decision of a private entrepreneur. Attractive incentives, like tax concession, subsidies, grants and easy loans etc. can attract the private capital into backward regions. One major problem for a private investor is the heavy initial cost of production and difficulties faced by him due to non-availability of infra-structure etc. In order to overcome these problems, providing financial concessions and infra-structural facilities would help to encourage private investors to move towards backward regions.

However during the recent year a greater emphasis is given to micro-level or block-level or macro-levels or district level plans in the country. In order to reduce regional disparities and to develop backward regions, through the device of planning at the macro-levels, it is crucial to have a scientific and systematic planning model. Regional planning has to be much more comprehensive then more employment programmes. The plans should be formulated in view of the local needs, potentials and aspirations. The regions need to be studied in depth. The structure of the existing level of

development of regions needs to be studied in absolute and also in relative terms.

Any strategy adopted for backward region development has to ~~be~~ begin with the identification of regions according to their differential levels of development. Next task is to formulate policies, programmes and plans based on the regional character, their requirements capacities. The strategy that is required is one of promoting that sector, which is backward and whose backwardness is hindering the over all progress of the region.

Identification of backward region is a prerequisite of any strategy of development like policies relating to federal assistance financial plans of the financial institutions. The study is specially useful for preparation of the macro-level plan. Backwardness area plans as they are understood by our policy makers at present, require proper identification of the backward region where the full employment programmes can be initiated. Even for understanding the usefulness of a particular plan, it is essential to understand the structure of the region, its relative position in terms of development and its natural and human resources. The regional economic plan

and regional physical plan around a relatively few locations are the two sides of the same coin of development.

However, there is no inherent mechanism to ensure that the benefits of development are distributed uniformly among all regions or areas. On the contrary, development is likely to accentuate the disparities. Lack of techniques and methods might be responsible for the state's inability to co-ordinate the sectoral economic planning.

2.3 ROLE OF PLANNING

Planning in India derives its objectives and social promises from the directive principles of state policy enshrined in the constitution. Public and private sectors are viewed as complementary. The private sector covers, besides organised industry, small-scale industries, agriculture, trade, and housing, construction and related areas. Individual effort and private initiative are considered necessary and desirable in the national endeavour for development with optimum voluntary co-operation. Although in the past, economic planning envisaged a growing public sector with massive investment in basic and heavy industries, now the emphasis on the public sector is less pronounced and the current thinking on

planning in the country, in general, is that it should increasingly be of an indicative nature.

The planning process was initiated in India in April 1951, with the launching of the First Five Year Plan. The main objective to develop plans was to establish India's economy on a socialistic pattern in successive phases of five year period: These plans are called as Five Year Plans. So for nine plans have been completed and the tenth plan was initiated in 2002.

The objectives and the main tasks of these plans are (a) Assessing the country's material, capital and human resources and to formulate plans for their most effective and balanced utilization (b) Determining priorities, defining stage through which the plan should be carried out and proposing allocation of resources for the purpose, (c) Specifying factors that retard economic development and determining conditions which should be established to carry out the plans successfully (d) Determining the nature of the machinary that will be necessary to carry out the plan successfully and (e) Appraising from time to time the progress achieved by the plans and recommending adjustments of policies accordingly.

The planning has various decisions regarding production, distribution, consumption and investment and in

fact all significant socio-economic relationship must be made by agencies informed by social purpose. The benefits of economic development must accrue more and more to the relatively less privileged classes of society and there should be a progressive reduction of the concentration in incomes, wealth and economic power. This statement has been the guiding star of all subsequent planning in the country. Each plan has reiterated its invincible faith in the concept of socialist pattern of society and modelled and remodelled the objectives and targets to accomplish it. We can broadly define the objectives of planning in India as under (Chaudhary, P. 1971).

(i) To secure an increase in national income.

(ii) To secure an increase in investment/income ratio.

(iii) Reduction in income inequalities.

(iv) Expansion of employment opportunities, and

(v) Adoption of measures to alleviate the three bottlenecks regarded by the planner as being of critical importance viz, agricultural production, the manufacturing capacity for producers' goods and the balance of payments.

Not only planning has failed to tackle the problems of poverty, unemployment and inter-personal income inequalities, it has also failed to solve the problem of inter-regional and intra-regional inequalities and to divert the flow of migrants from rural to urban areas. In fact, planning has only succeeded in accentuating these problems.

Keeping in view the large scale import of food-grain in 1951 and inflationary pressure on the economy, the first plan laid emphasis on agriculture, irrigation, power and transport so as to provide an infra-structure for rapid industrial expansion in future. The plan turned out to be more than a success mainly because it was supported by two good harvests in the last two years.

The Second Five Year Plan 1956-61 sought to promote a pattern of development, which would ultimately lead to the establishment of a socialistic pattern of society in India. Its main aims were (i) An increase of 25 percent in the national income (ii) Rapid industrialisation with particular emphasis on the development of basic and heavy industries (iii) Large expansion of employment opportunities and (iv) Reduction of inequalities in income and wealth and a more even distribution of economic power. It laid special emphasis on

industrialisation, increased production of iron and steel, heavy chemicals including nitrogeneous fertilizer and development of heavy engineering and machine building industry.

This plan expressed its concern over regional disparities and emphasized the necessity of balanced regional development. The pattern of investment must be so devised as to lead to balanced regional development. The problem is particularly difficult in the early stages when the total resources available are very inadequate in relation to needs. But more and more as development proceeds and large resources become available for investment, the stress of development programmes should be on extending the benefits of investment to under developed regions.

The approaches in the Third Five Year Plan (1961-66) were : (i) To help the states in reducing intra-state disparities i.e. disparities among different regions within the state, and (ii) To initiate new programmes and extend programmes adopted in the previous plans to reduce inter-state inequalities (i.e. inequalities between different states). As far as the first issue is concerned the programmes related to (a) Increasing agricultural production, (b) Taking steps to ensure "Largest feasible" increase in income and employment, (c) Developing

social services (specially elementary education, water supply and sanitation and health services in rural areas). (d) Developing communications and power and (e) Raising the standard of living for less developed areas of the state. All these programmes were intended to be oriented towards greater production and employment and the welfare of weaker sections of the population. In assessing the needs and problems of different states and in proposing outlays, factors relating to backwardness such as population pressure on cultivated land, under developed transport and communication facilities etc. and commitments arising out of the second plan and those arising from large projects were given due attention.

As far as the second issue is concerned, special attention was sought to be given to areas that were relatively backward in the past. Programmes implemented to achieve this purpose were (i) Intensive development of agriculture (ii) Extension of irrigation (iii) Promotion of small scale and village industries (iv) Large-scale expansion of power (v) Development of roads and road transport (vi) Provision of universal education for the age group 6-11 years (vii) Large opportunities for secondary technical and vocational education (viii) Improvements in condition of living and water supply (ix) Programmes for the

welfare of scheduled castes, scheduled tribes and other backward classes (x) Programme of rural works to solve the problem of poverty and under employment and (xi) Establishment of large industrial projects and river valley projects in the less developed regions of the country. The situation created by the Indo-Pak war in 1965 and two successive years of severe drought delayed the finalization of the fourth plan. The Fourth Five Year Plan (1969-74), beside the policies of earlier plans also introduced a number of other schemes for the benefit of the rural poor such as Small Farmer's Development Agency, Marginal Farmer and Agricultural Labourers Development Agency, 'Drought-Prone Area Programme, Crash Scheme for Rural Employment, Pilot Intensive Rural Employment Project, etc. Since a large number of the rural poor live in relatively less developed regions, all these programmes were expected to benefit the less developed regions more in comparison with the developed regions. Some programmes such as Drought-Prone Area Programme were meant specifically to help the backward areas. Other specific programmes initiated in the Fourth plan included identification of backward regions for purposes of granting concessions and financial assistance to industries established in such area and weightage to backward states in the

allocation of central assistance. Besides, a number of state governments and financial institutions also announced special concessions to industries established in the backward areas so that entrepreneur could be attracted to invest in such areas.

The major objectives of the Fifth Plan (1974-79) were to achieve self-reliance and adopt measures for raising the consumption standard of people living below the poverty-line. This plan also gave high priority to bring inflation under control and to achieve stability in the economic situation.

The Sixth-Plan (1980-85) gave major emphasis on the removal of poverty. The strategy adopted was to move simultaneously towards strengthening infrastructure for both agriculture and industry. Stress was laid on tackling inter-related problems through a systematic approach with greater management efficiency and intensive monitoring in all sector and active involvement of people in formulating specific schemes of development at local level.

The Seventh Plan (1985-90), aimed at rapid growth in food grain production, increased employment opportunities and productivity within the framework of basic tenets of planning, such as growth, modernisation, self-reliance and social justice. Food grain production during the seventh plan

grew by 2.23 per cent, as compared to a long-term growth rate 2.68 per cent between 1967-68 and 1988-89, due to overall favourable weather condition, implementation of various thrust programmes and concerted efforts of the Governments and the farmers. To reduce unemployment and poverty, special programmes like Jawahar Rozgar Yojana were launched.

The Eight-Five Year Plan (1990-95) could not take off due to the fast-changing political situation at the centre. The new Government which assumed power at Centre in June 1991 decided the Eight Five Year Plan would commence on 1 April 1992 and that 1990-91 and 1991-92 should be treated as separate annual plans. The basic thrust of these Annual plans was on maximization of employment and social transformation.

The Eight Five Year Plan 1992-97 was launched immediately after the initiating of structural adjustment policies which were necessitated by the worsening balance of payment position and inflation during 1990-91. This plan has recognised the need for a re-orientation of planning in keeping with the process of economic reforms and restructuring of the economy. The main emphasises of Eight Five Year Plan were :

(a) Human development as the main focus of planning (b) A large economic space for the private sector (c) Physical and social infra-structure development by the public sector (allowing at the same time the private sector to participate), and (d) A greater role to the market to infuse economic efficiency even in the working of Public Sector. However, a short fall in the expenditure in central sector due to inadequate mobilization of internal and extra-budgetary resources was witnessed. Similarly in state sector also there was short fall due to lack of mobilization of adequate resources because of deterioration in the balance of current revenues, erosion in the contribution of state electricity boards and state transport corporations, negative opening balance, mounting non-plan expenditure and short fall in the collection of small savings etc.

Since regional planning was not conceived as a frame work for the planning experiment, the rate of district planning was not appreciated by the planning commission. It was only after three plan that a change in thinking took place and the need for adopting an area development approach was recognized. Accepting the importance of district planning, the planning commission prepared a set of guidelines far the formulation of district plans in 1969. The guidelines state, "It

has become apparent that plan formulation undertaken exclusively at the state level cannot be taken fully into account because of the variety of conditions existing in the different physio-geographical and economic regions of the state", and advocate the adoption of district planning on the following considerations:

(a) The wide disparities which exist between the levels of development attained by different areas and community groups within a state and their full potential for development can not be narrowed down unless the resources and the programmes to be taken up in each area or for each community are determined, on the basis of a specific and local assessment of problems, resources and productive potentials.

(b) Under-utilization of the already available natural resources, infra-structural facilities and productive capacities in different areas can not be properly assessed at the state level.

(c) The uniform application of development schemes formulated at the state level without regard to their

suitability to local conditions, leads to inefficient utilization of physical and financial resources.

(d) Meaningful assessment of on going schemes can not be undertaken except at the ground level and with the active participation of local officials and the beneficiaries of schemes.

(e) Without a systematic study and planning of the local infra-structure, a firm and objective basis can not be provided for the planning of the state superstructure.

(f) Proper phasing to ensure synchronization of the programme with other related programmes can not be attempted without working out the details of prgrammes at the ground level.

(g) Measures for the mobilization of local resources for development purposes can not be planned realistically except in the specific context of the needs, aspirations and the economic condition of the people and the level of performance of local institutions, and

(h) Integration of different levels of human settlement in a graded hierarchy requires the identification of growth centres. The deliberate steps required to be taken to identify the growth centres and to provide, locate the

facilities and services required to meet the growing needs of the villages lying in their hinter lands can not be taken except at the district level through the analysis of the emerging trends in economic activities and the pattern of facilities and services already available.

To undertake planning in these terms requires a certain amount of technical and statistical expertise at the formulation stage and effective participation of people at the implementation stage. Both these requirements are woefully missing in our planning process. In addition, the absence of proper planning machinery at the state level and the complete non-existence of planning infra-structure at the district level, makes the task of preparing and implementing district plans still more difficult. An attempt in this direction was made by evolving a three-tier structure of Panchayati Raj Institutions, Village Panchayat, Panchayat Samiti and Zila Parishad. The Zila Parishad was to function at the district-level while the district collector continued to be the "controller' of practically all governmental authority in the districts. The institution of Zila Parishad considerably diluted the power of the district collector in some states. Thus in Maharashtra and Gujarat, the district collector has been completely left out of the Zila

Parishad. The administrative control here vests in the chief executive officer (or district development officer) who is responsible for co-ordinating all developmental programmes in the district. In Uttar Pradesh and Bihar, the district collector can attend the meeting of Zila Parishad and participate in discussions but has no right to vote.

Such an organization has created more problems than it has solved. Since the role of the district collector as a co-ordinator has not been precisely defined, the dichotomy between the administrative system and the political system has created several problems. The local government is political in character and it is natural that in the type of parliamentary democracy, that we have, the local leaders should come to wield considerable power and influence. Thus they pressurize the district administrator for approving irregularities, doing illegal things such as harassing a particular political group, indulging in corrupt practices, misallocating Government benefits and funds etc. Contrary to to the expectations of the founders of the Panchayati Raj movements, the local leaders have not been shown much interest in development programmes, programmes of education, family planning etc. On the other hand, on account of the structural dichotomy and on account of the lack of clear delineation of powers and

duties, there are frequent delays at all stages of the planning process. In those cases where the administrator does not look the lines dictated by local leader, there are frequent struggles and inter-personal rivalries. Because of their local influence, the nature of their profession, and their contacts at the state political level, the local leaders are frequently at the winning end and the administrator gets transferred. While this dampens the spirit of other young enthusiastic administrators and its encourages the leaders of the local-level government to adopt more and more questionable means to accomplish their own selfish ends.

There is another serious problem that has not been referred to, though the district collector has the district-level functionaries of all the departments such as health, education, co-operation, veterinary, engineering etc. under him but these functionaries deal directly with their respective department at the state level. Thus, there is "dual supervision" and the possibility of frictions and disputes can not be ignored.

Thus it is said that for the district planning, it is necessary to provide horizontal co-ordination and integration between the district administrative system and the local political system and vertical integration between the district level and the state level.

Chapter - 3

THE STUDY AREA : EASTERN UTTAR PRADESH

Eastern Uttar Pradesh is an important part of the Uttar Pradesh. It is bounded by Nepal in the North, Central region, and Bundelkhand region in the west, Madhya Pradesh and Chattisgarh in the south and Bihar and Jharkhand in the East. The northern limit of this region is bounded by Indo-Nepal International boundary which broadly cuts through the Bhabar and Terai zones of Bahraich, Gonda, Siddarth Nagar and Maharajganj districts.

Eastern Uttar Pradesh spreads from 23°45' North to 28°20' North latitudes and 81° 5' E to 84°36' East longitudes. The greatest length from north to south is about 550 kilometers and maximum width from east to west is about 375 kilometers. The region according to 2001 census, has a population of 52.93 million, spreads over an area of about 85.84 thousand square kilometers. The density of population in the region is 845 persons per square kilometer. About two-third of the total population is engaged in agricultural activity and about three-fourth of the total population lives in rural areas. The region as a whole comprises of 19 districts of Uttar Pradesh. (Fig. 3.1 and Table 3.1).

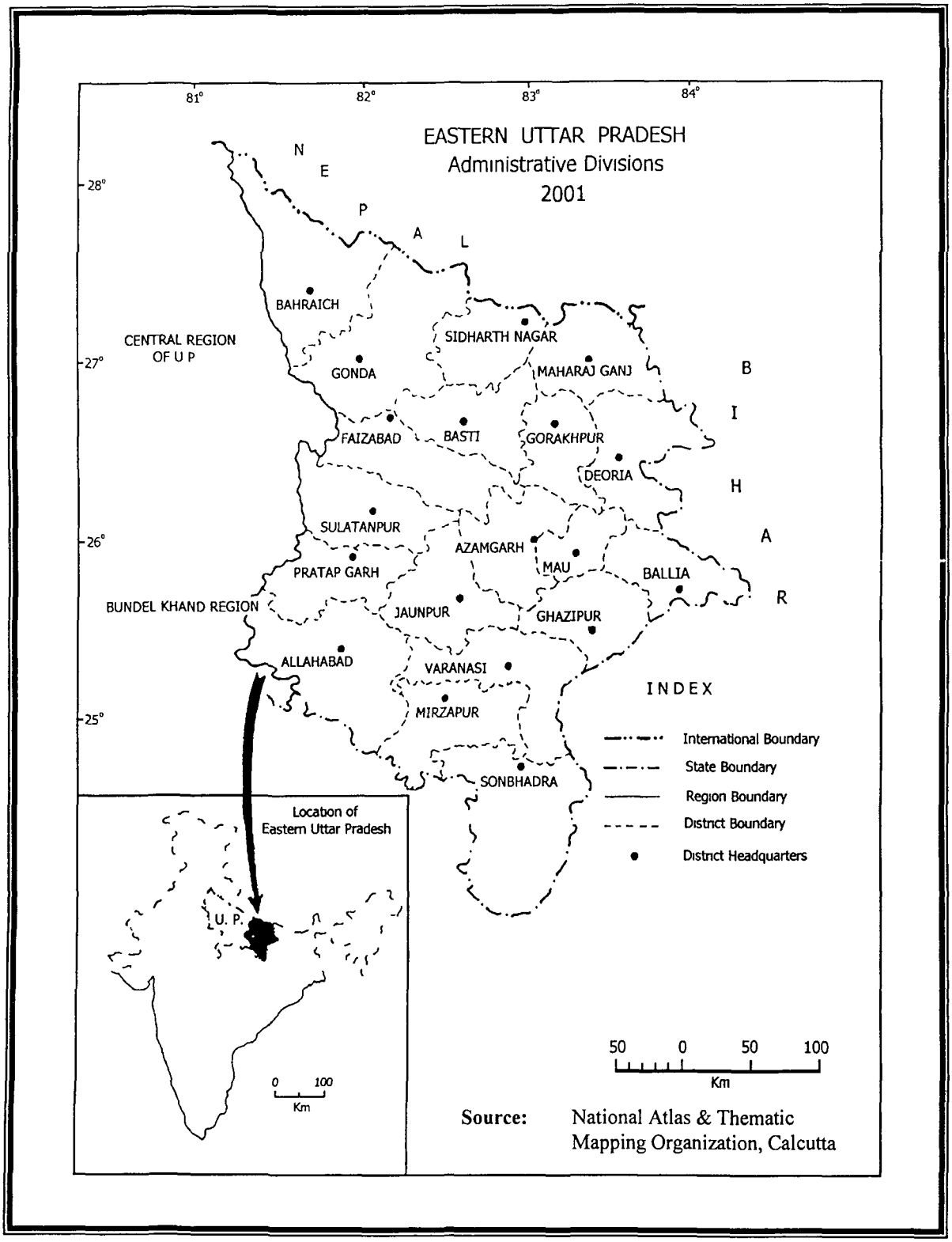
EASTERN UTTAR PRADESH
Administrative Divisions
2001
81°
82°
83°
84°
28°
27°
26°
25°
N E P A L
B I H A R
CENTRAL REGION OF U P
BUNDEL KHAND REGION
BAHRAICH
SIDHARTH NAGAR
GONDA
MAHARAJ GANJ
FAIZABAD
BASTI
GORAKHPUR
DEORIA
SULATANPUR
AZAMGARH
MAU
PRATAP GARH
BALLIA
JAUNPUR
GHAZIPUR
ALLAHABAD
VARANASI
MIRZAPUR
SONBHADRA
INDEX
International Boundary
State Boundary
Region Boundary
District Boundary
District Headquarters
50 0 50 100
Km
Location of Eastern Uttar Pradesh
U. P.
0 100
Km
Source: National Atlas & Thematic Mapping Organization, Calcutta

Fig. 3.1

Table – 3.1
Agricultural and Irrigated Area in Eastern Uttar Pradesh (2001)
(Area in Hectares)

S. No.	Districts	Area	Population 2001	Net Sown Area	Area Sown more than once	Total Cropped Area	Net Irrigated Area	Total Irrigated Area
1.	Allahabad	726100	4941510	477476	179744	657220	287351	429011
2.	Pratapgarh	371700	2727156	219411	122802	342213	171894	261901
3.	Varanasi	509200	3147927	328492	212639	533131	272485	406786
4.	Mirzapur	452200	2114852	210931	92992	303923	127116	191443
5.	Sonbhadra	678800	1463468	191075	74279	265354	46872	70015
6.	Jaunpur	403800	3911305	291993	116700	408693	206838	312485
7.	Ghazipur	337700	3049377	264481	136259	400740	210065	319939
8.	Ballia	298100	2752412	214000	125028	339028	151863	223286
9.	Azamgarh	423400	3950808	309284	187417	496701	261951	350600
10.	Mau	171300	1649294	126284	85252	211536	112061	152389
11.	Gorakhpur	332400	3784720	262632	138833	400665	198910	215194
12.	Maharajganj	294800	2167041	204546	155353	359899	157947	169963
13.	Deoria	544500	2730376	206598	108696	315294	154763	169989
14.	Basti	373300	2068922	327546	164829	492375	219207	261915
15.	Siddharth Nagar	349500	2038598	254170	116818	370988	142192	145387
16.	Faizabad	451100	2087914	303060	178796	481856	246220	418935
17.	Gonda	735200	2765754	483068	215362	698430	238170	263184
18.	Bahraich	687700	2384239	467088	240903	707991	152682	183637
19.	Sultanpur	4436	3190926	286270	156889	443159	206242	287750
	TOTAL	8584400	52926599	5428405	2809591	8229196	3564829	4833809
				(63.23%)	(32.72%)	(95.86%)	(41.52%)	(56.30%)

Note: Figures in the brackets shows percentage of the total.
Source: Economics and Statistics Division, State Planning Institute, Uttar Pradesh, Lucknow.

A perusal of table 3.1 shows that the total area of the region is 8,584,400 hectares, while the netsown area is 5,428,405 hectares, which is about 63% of the total area of the region. The total cropped area is 8,229,196 hectares. The net irrigated area is about 41% only. It has been observed that the net sown area is only about 63 percent, while there is no doubt that the bulk of agricultural production will have to be achieved by increased yield per hectare, therefore it is very important to increase net sown area as much as possible not only for increasing production but also for providing land to landless labourers or for improving the size of existing holdings etc. These measures will in the long run help in the rural development and will reduce the regional imbalance in the region. However, before going into the details of the problem, we should study the physical conditions of Eastern Uttar Pradesh.

3.1 PHYSICAL FEATURES

The physical features of the region are similar to those found in other parts of the Uttar Pradesh. Physiographically, the region contains vast alluvial plains having gentle slope from north-west, west and south towards east. The rocks are every where of fluviate and sub-aerial formation – massive

beds of clay either sandy or calcareous, corresponding to the silt, mud and sand of the modern rivers. A characteristic of the clayey parts of the alluvial plains, particularly in the older part of the deposits, is the abundant dissemination of impure calcareous matter in the form of irregular concretions – ***Kankar***. The formation of these ***kankar*** concretions is due to the segregation of the calcareous material of the alluvial deposits into lumps or nodules.

The alluvial deposits are divided into bhanger and khadar lands. The bhangar lands are older alluvium and correspond, in age to ***Middle Pleistocene*** Period, while the ***khadar*** lands are newer alluvium. The ***Bhangar Lands*** occupy the higher ground, above the general flood levels of the main rivers and their tributaries. These lands are not flooded by rivers during the rains. These lands also contain carbonate of lime in the form of small nodules of irregular shape and size – called as "Kankar". The ***khadar*** lands form flood plains along the river bank. The most important material in ***bhangar*** lands is clay which at places becomes loam to sandy loam while the ***khadar*** lands are composed of sand, silt and clay.

Geologically, the Eastern Uttar Pradesh forms a part of the Indo-Gangetic plain, which came into existence in the

Pleistocene Period. The plain lies between the newly upheaved mountains (Himalayas) in the north and peninsular India in the south. Various hypothesis have been put forward to explain the geological evolution of the plain. Edward Suess (An Australian Geologist) has suggested that it is a 'fore-deep' formed in front of high crust waves of the Himalayas as they were checked in their southward advances by the inflexible solid landmass of the peninsula. On this view, the depression is of a synclinal nature-a synclinorium, (Wadia, 1981). On the basis of physical and geodetic considerations, Sir S. Burrard considers that the Indo-Gangetic plains occupies – ***'rift-valley'***, a portion of the earth's surface sunk in a huge crack in the subcrust, between parallel faults on its two sides. This rift extends from the surface far down into the crust about 32 kilometers deep and is subsequently filled up by alluvium. This view has got few geological facts in its support but is not adopted by geologists, who believe that the Indo-Gangetic depression is a true 'fore-deep' a down warp of the Himalayan foreland, of variable depth, converted into flat plains by the simple process of alluviation. On this view, a vigorous sedimentation took place and this deposition kept pace with subsidence giving rise to this tectonic trough of India (Wadia, 1981). A third and more recent view about the origin of this

region is as a sag in the crust formed between the northward drifting Indian continent and the comparatively soft sediments accumulated in the Tethyan sea, which later on were crumpled up and lifted up in the form of a mountain system (Krishan 1982). A general accepted view about the origin of the plain is that, it has been formed by the buckling down of the northern border of the peninsular shield beneath the sediments thrust over it from the north (Krishnan, 1982). Whatever may be the cause which gave birth to this trough, but once it was formed, the depression was filled up with sediments brought by rivers flowing from the Himalayas and the peninsula (Sharma and Coutinho, 1980).

As far as the thickness of alluvial deposits is concerned, recent gravity magnetic and seismic explorations show that, it varies from less than 1,000 to over 2,000 meters (Wadia, 1981). On the basis of geodetic observation, Glennie (1932) estimated, its thickness to be about 1,950 meters. Boring done mainly for artesian wells have penetrated only upto 1,606 meters in the recent alluvium strata (Krishnan 1982). Oldham (1917), on the basis of geological considerations, postulated the depth of trough to be about 4,600 meters near its northern limit. Aero-magnetic surveys of the Gangas basin indicate that the basement rocks lie at a depth of about 7,000 meters and

the geophysical indications of the basement are at depths of 6000-7500 meters below the surface, (Krishnan, 1982). The data collected by the survey of India in Bihar show that the thickness of the deposits in the basin may be 1800 meters and probably less than 3000 meters.

Physiographically the Eastern Uttar Pradesh can be divided into four parts (Fig. 3.2) :

I- The Tarai Area (Plain)

II- The Ghaghra and Rapti Plain.

III- Gomti – Tons – Ghaghra Plain.

IV- Trans Ganga Plain.

I- THE TARAI AREA (PLAIN):

The Tarai Area extends from west to East along the boundary of Nepal. This area is certainly a continuation of the Nepalese tarai belt. The tarai tract is roughly a 15 to 24 kilometers wide marshy tract and lies from the international boundary between India and Nepal. It is a low lying, marshy stretch of land with slight gradient (1.8 metre or less per km.) infested with reeds, tall grasses or forest under natural conditions. The area is marked by drainage obstructives and has a high water table (3-5 meters in summer) and fertile land

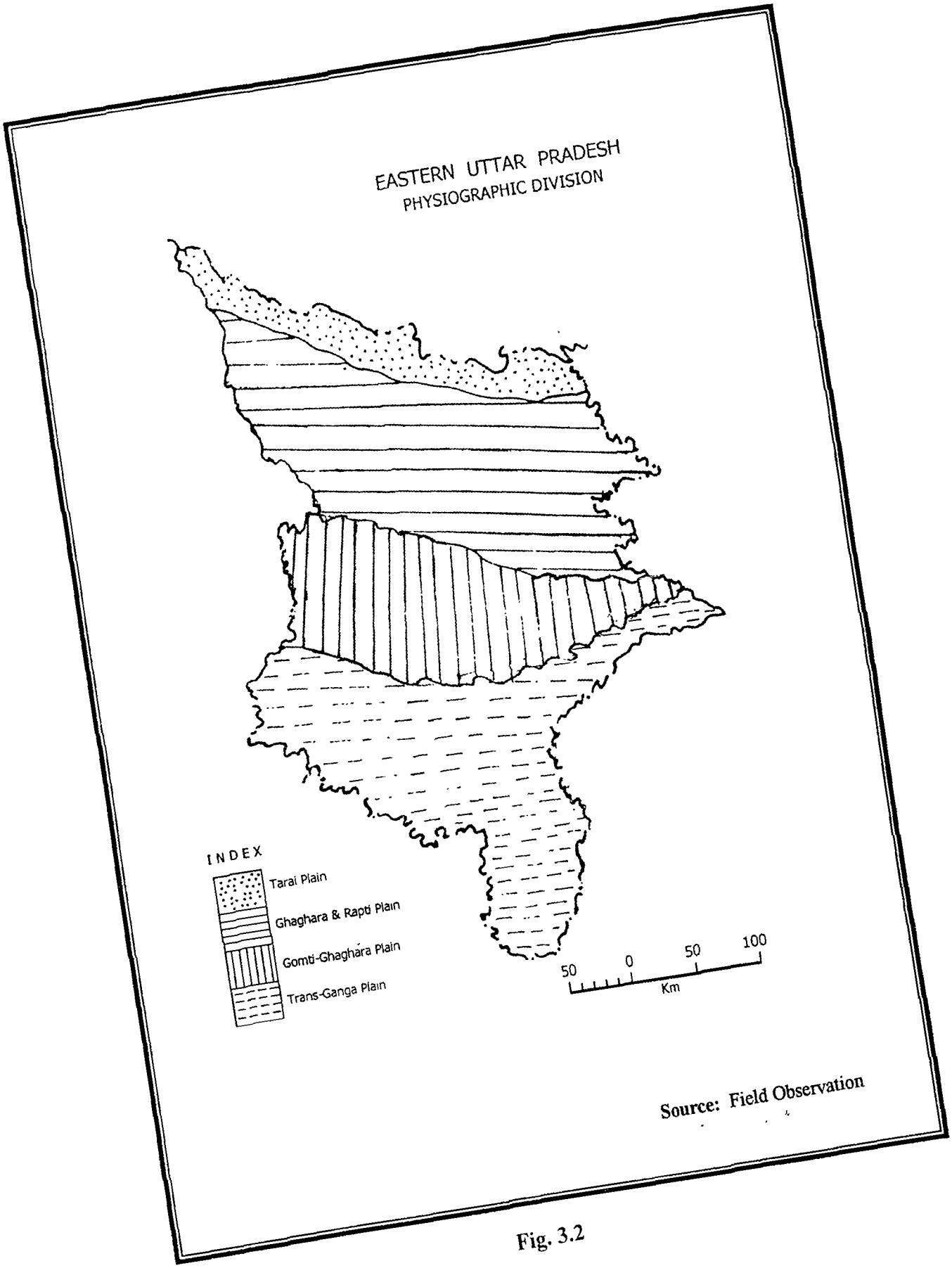
EASTERN UTTAR PRADESH
PHYSIOGRAPHIC DIVISION
INDEX
Tarai Plain
Ghaghara & Rapti Plain
Gomti-Ghaghara Plain
Trans-Ganga Plain
50
0
50
100
Km
Source: Field Observation

Fig. 3.2

though there is a highly leached soil saturated with moisture and high clay factor. The whole tract is a shallow basin which is frequently flooded during the wet monsoon month when a large number of streams swell considerably to submerge it under water. These swift flowing streams generally bring down an enormous quantity of silt, clay and deposit them in this track. Consequently, the area is turned to be fertile and is specially suitable for the cultivation of rice.

II- GHAGHARA AND RAPTI PLAIN:

The plain bounded by the tarai in the north, and ***khadar*** and ***bhangar*** is south. The plain laying between the Ghaghara and the Rapti rivers includes the bhangar lands of Gonda, Basti, Gorakhpur and Deoria districts. It is almost an alluvial plain. This region varies in character from tarai. Here the water level varies from place to place, though the difference is insignificant. The soil varies from sandy loam in west to silty loam in the East. Agriculturally this tract is one of the most important region for cultivation of rice and sugarcane.

III- GOMTI-TONS-GHAGHRA PLAIN:

This plain is found in the fertile part of Eastern Uttar Pradesh. This part includes the districts of Faizabad, Azamgarh, Ballia Northern part of sultanpur and some parts

of Jaunpur. In this region the khadar is very wide because rivers meander through this area. More over, they often change their courses. The fertility status of the soil goes down because of the fact that the Ghaghara brings a lot of sand in the plain as it descends from the mountains, so the command area of this river has a higher percentage of sandy silt. Soil is generally silty loam and suitable for the cultivation of rice and sugarcane.

IV- TRANS-GANGA PLAIN:

This tract laying between the Ganga and Karamnasa river, includes the areas of Allahabad, Mirzapur, Varanasi, Ghazipur and Ballia districts, excluding the Khadar land as well as the southern half of the Zamaniah Tehsil of Ghazipur district. The distinguishing feature of this area is the absence of drainage channels. There is hardly any important lake. The river Karamnasa is sometimes subjected to flood and ocassionally flow over the adjoining land. The soil is good and suitable for the cultivation of rice, wheat and sugarcane.

3.2 CLIMATE:

The climate of Eastern Uttar Pradesh is characterized by seasonal ***rhythm***, marked by south-west and north-east monsoons. The two agricultural seasons of Kharif and Rabi

closely follow the wet (S.W. Monsoon) and the dry (N.E. Monsoon) monsoons. There are four distinct seasons most commonly recognized:

I- The cold weather season (Dec.-Feb.)

II- The hot weather season (March-Mid-June)

III- The season of general rains (Mid June-Mid Sep.)

IV- The season of retreating monsoon (Mid-Sep.-Nov.)

I- THE COLD WEATHER SEASON:

This season is characterised by cold and dry air. Sky is generally clear and cloud cover rarely exceeds two-tenth. During this season, the temperature falls and pressure rises and due to this whole region comes under the influence of high pressure belt. The direction of prevailing winds is normally from east and north east to west and south-west. Thw winds are dry and light and generally blow at an average speed of about 3.2 kms per hours. Days are warm while night are cool. The rain fall is very small, irregular and sporadic and is caused due to western depressions. January is the coldest month when the temperature varies between 12.5°C to 17.5°C. The temperature starts to rise in the month of Febrauary and ranges between 13°C to 25°C.

II- THE HOT WEATHER SEASON:

The second half of the dry monsoon period includes the months of march to half of June. This period is characterized by rising temperature and falling pressure. The mean monthly temperature in March varies between 24°C to 29°C in different places. The temperature continues to rise during April to June. The month of May and June record exceptional high temperatures, as high as 43°C or 44°C and even more than 45°C for few days. The days are characterised by intensive heat, dry air and low relative humidity. A regular phenomena of this season in the blowing of hot and dry winds, locally called as ***Loo***, which blow with great velocity of about 5.5 km. per hour, in the month of April. It reaches its maximum in June when its velocity is about 10.5 km per hour. The humidity is occassionally falling 2 or 3 percent in the after noon.

III- THE SEASON OF GENERAL RAINS:

On account of excessive heat of the summer months, a low pressure in developed in the northern part of India and by the middle of June it brings a complete reversal in the air movement. This is the season of general rains which is characterised by the arrival of humid oceanic currents, fall in

temperatures, cool air and rainfall. The maximum temperature decreases from about 40°C in the month of June to about 35°C in the month of July. The relative humidity increases from 30 percent in May to 75 percent in last of June and about 85 percent in July and August. The time of onset and retreat of monsoon varies from year to year. Generally, in Eastern Uttar Pradesh, it sets in by the mid of June and continues till the end of September. July and August are rainiest months. The average annual rainfall is about 110 cms out of which about 90 percent is received during this season (Fig. 3.3).

IV- THE SEASON OF RETREATING MONSOON:

This season is marked by hot and sticky weather and rise in temperature which starts falling by the end of October. The maximum and minimum temperatures in the month of September are about 32°C and 23°C respectively. The skies are clear and relative humidity falls to less than 50 percent. The precipitation in October is only about 3 cms. Due to clear sky, the day temperature is high but the night temperature falls.

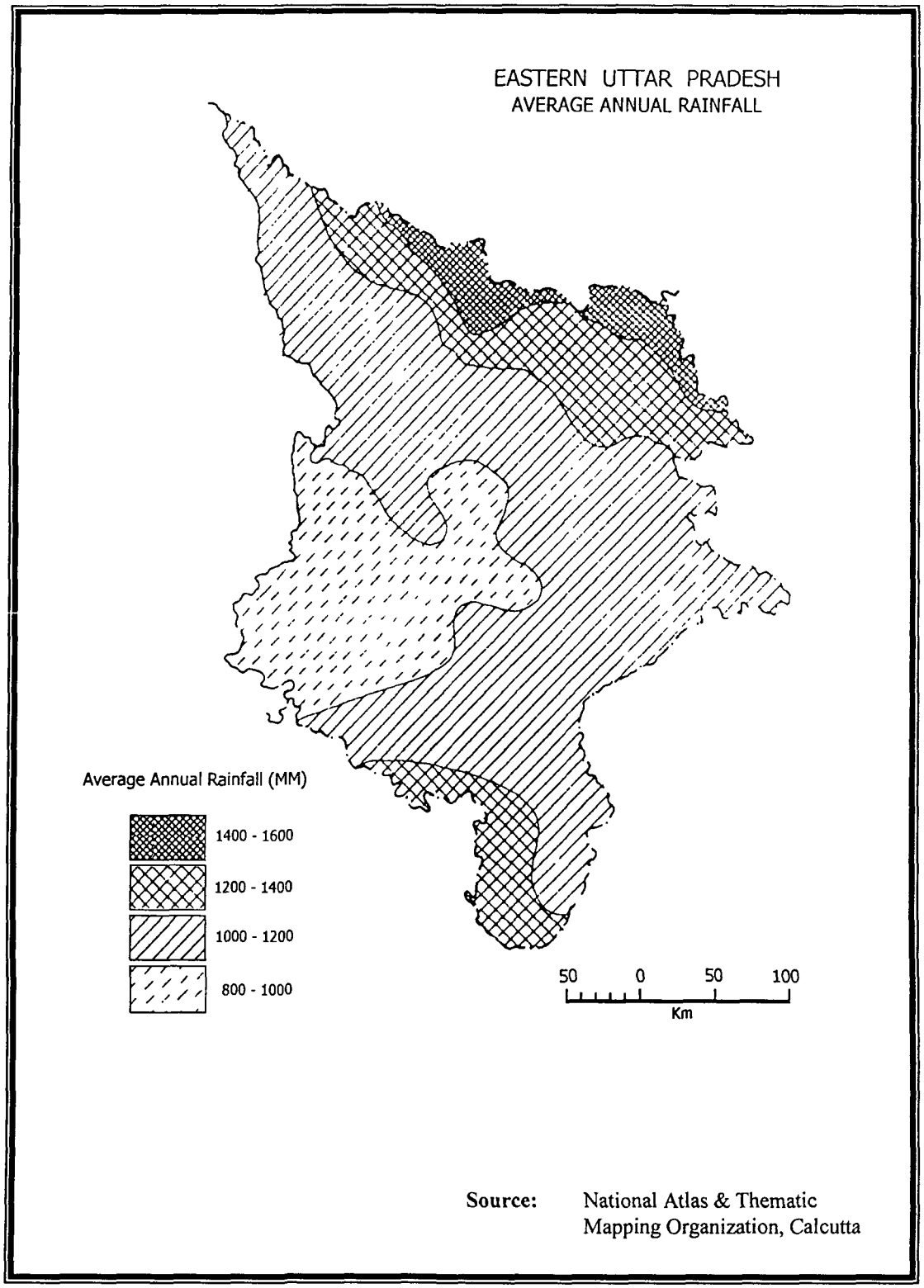
EASTERN UTTAR PRADESH
AVERAGE ANNUAL RAINFALL
Average Annual Rainfall (MM)
1400 - 1600
1200 - 1400
1000 - 1200
800 - 1000
50 0 50 100
Km
Source: National Atlas & Thematic Mapping Organization, Calcutta

Fig. 3.3

3.3 DRAINAGE:

The drainage pattern of the area shows a close relationship with gentle slope of the land. All the rivers of the area have a tendency to flow in zig-zag courses across the plain except the Ghaghara which flow more or less in a straight course. The principal rivers are the Ganga, Ghaghara Gomti, Rapti, Sarju, Tons and Gandak etc. (Fig. 3.4)

THE GANGA RIVER:

The Ganga, having its source in the snowy caps of Himalayas, in the most important river of Eastern Uttar Pradesh. The other rivers in the region are the tributary of Ganga. The Ganga traversing eastward enters the region near Allahabad and moving eastward passes the districts of Mirzapur, Varanasi, Ghazipur and Ballia. It receives all its tributaries except Karmanasa, on left side. Karmanasa rises in the Kaimur hills and moving along eastern border of Varanasi district joins the Ganga on right side at Bara-Chausa in Ghazipur district. The width and velocity of the river vary according to the season. In summer season it shrinks to 200 to 600 meters, but in the rainy season it swells to as much as one to three kilometers bed. During the rainy season, the volume and velocity of the river is considerably increased

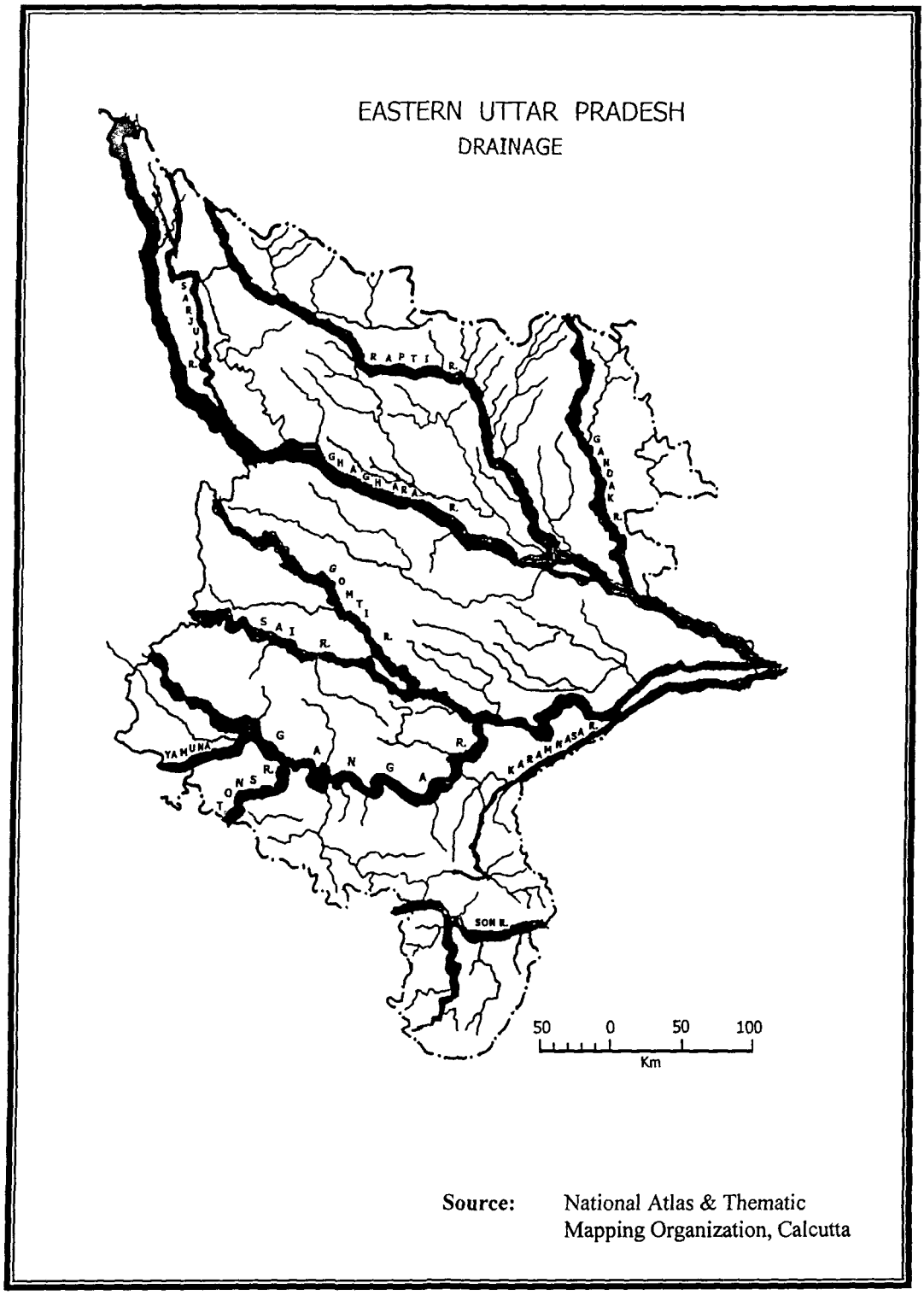
EASTERN UTTAR PRADESH
DRAINAGE
SARDA R.
RAPTI R.
GHAGHARA R.
GANDAK R.
GOMTI R.
SAI R.
YAMUNA R.
GANGA R.
TONS R.
KARAMNASA R.
SON R.
50 0 50 100
Km
Source: National Atlas & Thematic Mapping Organization, Calcutta

Fig. 3.4

because of which the low lying areas are frequently inundated. The land along the river is rich and produced good yield of crops with little irrigation.

THE GHAGHARA RIVER:

The Ghaghara, which is known as Sarabhu (Sarayu) in Pali literature is an important river of North Eastern Uttar Pradesh. It has a number of tributaries like Kauriala, Girwa, Sarda and others. These tributaries have their origin in the mountains of Kumaun and Nepal. The Ghaghara is sometime known as ***Kauriala*** in Bahraich district, but it is definitly known as Ghaghara, after its junction with Sarda near Bahramghat. It is also known as Sargil or Saryu at a short distance in the sacred city of Ayodhya. Ghaghara enters the Eastern Uttar Pradesh in the district of Bahraich and flowing in an easterly direction, it is joined by the Tehri river in Nawabganj block of Gonda district and further south-east by Kuwana river in Gorakhpur district. Then it further moves eastward and joins river Rapti near Dohrighat and finally it moving eastward joins the river Ganga at Chapra in Bihar. The catchment area of the Ghaghra is more than the river Ganga. Its numerous bars and channels suggest that, it is an aggrading river and has been continually shifting its course

within a belt of about 55 km in places. Due to this, large tracts of land from time to time an transferred either to the northern or southern banks rendering the areas of the districts subject to variation.

THE RAPTI RIVER:

Rapti is also an important river of the Eastern Uttar Pradesh. It was originally known as Iravati and later its name changed to Ravati and then Rapti. Its source lie in the Nepal hills to the north of Bahraich district. It traversing the districts of Bahraich, Gonda, Basti and Gorakhpur joins the Ghaghara in west of Gaura Barhaj a confluence town in the district of Deoria. It has three major tributaries on its left side and one small tributary on its right side. It is said that the river formerly flowed in the bed of the Barar, the tributary of the Ami river and at times, the Rapti has assumed a more northerly channel, as it is evident from the varying names of Rapti as Burhi Rapti or Old Rapti. The Old Rapti flows in a south easterly course and, while passing from the west of Gorakhpur, it is joined by the Rohini river on its left bank, and after traversing some distance from Gorakhpur, it is joined by river Ami on its right banks near Amiar-Tal and finally it joins the river Ghaghara near Gaura-Barhaj.

THE GOMTI RIVER:

The Gomti river enters the Eastern Uttar Pradesh through the district of sultanpur and passing Jaunpur district it joins the Ganga river at Saidpur tehsil in Ghazipur district. It flows in an easterly and south-easterly direction in the region. The bed of the river is deep and its channel is well-defined, but the stream has a low velocity, which never exceeds seven kilometers per hour, even in the time of flood. During the rainy season the width of the stream exceeds three kilometer, while in the hot weather, it is not more than 100 meters. In some places, along the river bank, there may be some narrow strips of alluvial land, but they are of little value for cultivation, as the river brings little silt and much sand during high floods. On its left bank, the Gomti is joined by the river Sai, which has a deep bed and broken banks at places, by ravines. The Gomti, before emptying itself in the Ganga, receives another tributary called the Nand, which run dry during the hot weather but during the rains receives a large volume of water on either sides and swells to a considerable size. The Gomti is navigable in its lower course.

THE GANDAK RIVER:

The Gandak touches the extreme north-east corner of the region and it has a little effect in the region. Taking its rise from the snowy ranges of Nepal, it flows through a gorge and leaving its hilly course near Tirbeni about 16 km. north from its entrance into the region. The Gandak is probably most dangerous river of the region. Owing to its swift flow and changing courses, it attains greater width as it enter the region and forms a bulge towards the west for some distance and then flows south-east having most of its course in Bihar state and finally it joins Ganga near Patna. Gandak is a volumnous river with a water discharge at thousand cubic meters per second during rainy season and of hundred cubic meters per second during the dry month. The river is usually subjected to voilent and sudden floods in the begining of the monsoon season and causes great damage to Kharif crops, cattle and houses. Although Gandak feeds the Rophini and little Gandak river with a large volume of water but when it is separated from these river it submerges, extensive forest lands of Nepal and plains of North Eastern Uttar Pradesh and Bihar. It creates great problems in the villages that comes in its way.

THE SARJU RIVER:

The Sarju enters the district of Bahraich and joins one of the southerly channels of the Ghaghara known as Badrauhan Nala. Then, about 1.5 km east of the village Haraija, it leaves the Badrauhan Nala and flows towards south-east. Near Mau district, it is joined by an other important tributary, the Tons, which is perennial but maintains only a sluggish current of water in the dry months. The bed of Sarju after its confluence with the Tons becomes deep and broad. In lower course, the Sarju on its right bank, is joined by another tributary – the Bhainsali.

About six kilometers before its confluence with the Ghaghara, Sarju receives Mangai tributary on its right bank. Although the Mangai drains a fairly large area but it receives no any important tributary. The presence of numerous ox-bow lakes near the left bank of its middle and lower course suggests that formerly the river had probably a northerly course and joined the Sarju about 13 kilometers west of the present confluence.

The connection of the Sarju with the Ghaghara has led to the suggestion that the former represents an ancient channel of the Ghaghara and it is said that in future probably

the Ghaghara may again resume this course owing to the constant eastward movement of its junction with the Ganga. The gradual raising of the bed of the Ghaghra may render it more liable to break through its bank and adopt for itself a shorter and easier route to the Ganga. But it is very unlikely that the bed of the Sarju could have formed a channel for so great a river as the Ghaghara.

3.4 SOIL

The entire plain of the Eastern Uttar Pradesh is a broad belt of alluvial soil. The soil map of India and even that the Uttar Pradesh have been prepared from time to time by various authorities. These maps have given a generalized picture and valuable informations of the soils in Eastern Uttar Pradesh. In these maps, the classification of the soil has been attempted on the basis of colour, texture, availability of water and the level of land. This classification is mainly empirical in nature and undertaken for the assessment of revenue. Each type of soils has been given local name such as Matiyar, Domat and Dhankar which have been adopted in the region during the consolidation of holding.

The soils of the region, which are made up by the alluvium brought by the Rapti, Ghaghra, Gomti and Ganga

rivers have been greatly affected by the local climate, vegetation and topography.

The alluvial soils of Eastern Uttar Pradesh has been divided into two broad geological divisions – the Khadar soils (newer alluvium) and the Bhangar soil (older alluvium). The newer alluvium is in the process of building while the older alluvium is in the process of denudation. The newer alluvium occupies the flood plains of the rivers and their tributaries as a result of which the constituents of such lands are renewed every year where as the older alluvium occupies the level plains above the general flood limits of the main rivers and their tributaries. The alluvium chiefly consists of various grades of sand, silt and clay. A characteristics of the clayey part of the alluvial plains is the abundant dissemination of impure calcareous matter in the form of irregular concretions – Kankar. The soils differ greatly in texture and consistency ranging from the sands through loams and silt to heavy clays that are ill-drained and are sometimes charged with injurious accumulation of sodium salts producing a sterite deflocculated conditions called ***Usar***.

The important soils of Eastern Uttar Pradesh are as follow (Fig. 3.5).

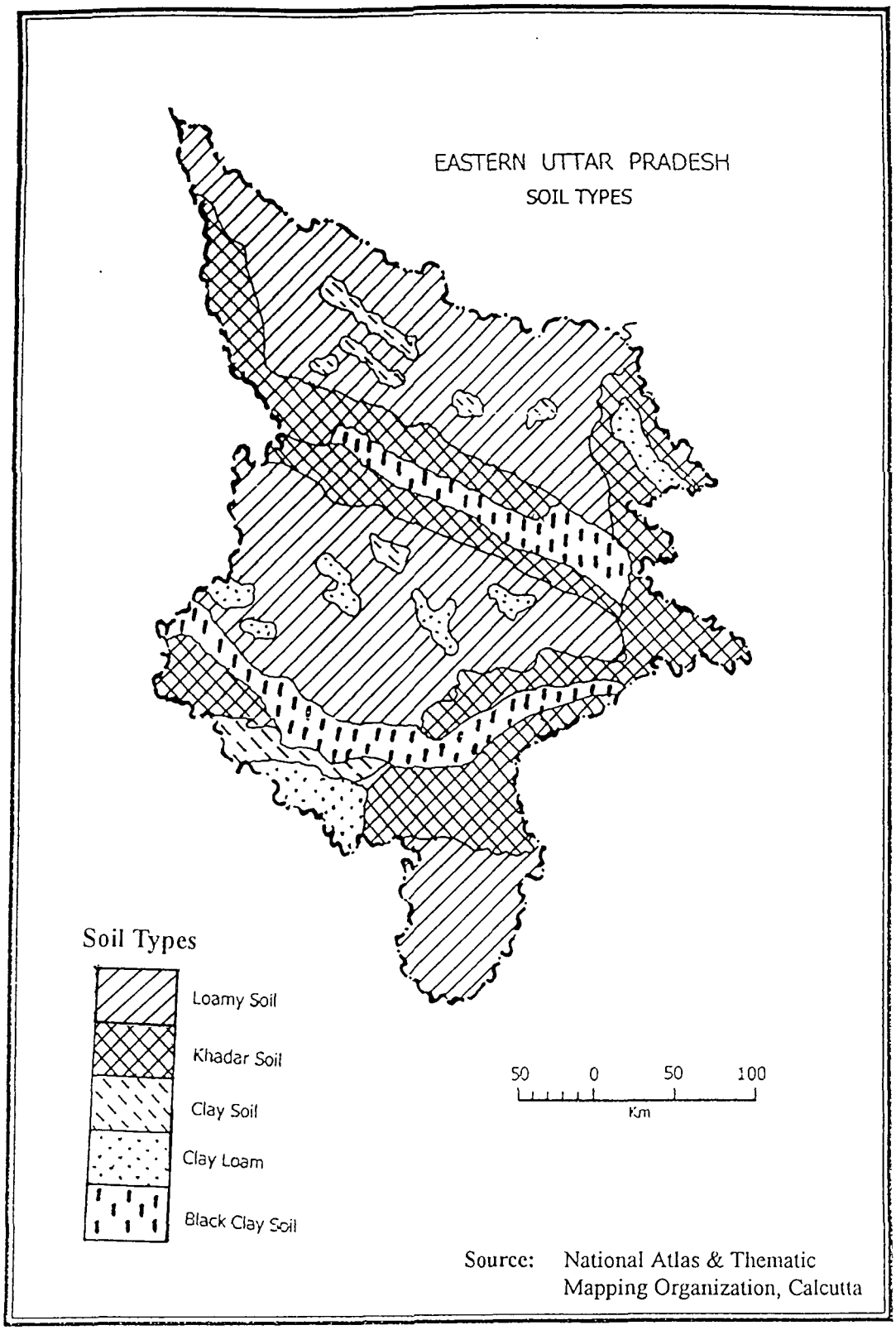
EASTERN UTTAR PRADESH
SOIL TYPES
Soil Types
Loamy Soil
Khadar Soil
Clay Soil
Clay Loam
Black Clay Soil
50 0 50 100
Km
Source: National Atlas & Thematic Mapping Organization, Calcutta

Fig. 3.5

I- KHADAR SOILS:

The soil of the khadar land is generally sandy and found adjacent to the river banks, but away from the banks it improves in texture and shows an increase in percentage of silt. The sandy soil is used for the cultivation of millets and Kharif pulses while the silty soil is used for millets in Kharif season and barley or gram in the Rabi season.

II- BHANGAR SOILS:

These soils are of various types:

a) Loamy Soil (Domat):

In the well drained part of Uttar Pradesh, dominant soil is loamy. The surface soil is yellow to brown in colour with a brownish yellow colour of sub-soil. The drainage in this soil is good. Due to the hight texture of the soil, its water retention capacity is low but if irrigation facilities are available, it is capable of producing good crops.

b) Clay Loam Soil (Matiyar):

The Matiyar soil has grey or yellowish-grey color at the surface, while in the lower layers the color changes to dark grey. As compared to the domat soil, it is rich in clay and its water retention capacity is high. At depths varying from two to four feet calcareous pans (Kankar) may occur. The calcium from the surface is leached and accumulates at various depths

in the form of ***Kankar*** nodules. The presence of ***Kankar*** pan impedes the drainage with the result that during the rainy season bodies of water at places are held up and stagnate. It may be mentioned that matiyar soil responds well to rice cultivation.

c) Clay Soil (Dhankar):

The colour of dhankar soil is grey to dary grey. It has a compact and muddy structure and becomes sticky when wet and very hard when dry. This soil is largely used for the cultivation of rice. It is often characterized by salt efflorescence and wherever the salts occur in large proportion the land is not used for cultivation. In some parts there is a large amount of ***Kankar*** in the sub-soil which often renders the soil unfit for cultivation.

d) Black Clay Soil (Karial):

The karial soil is black in colour and predominantly clayed in texture and in appearance resembles the Indian Black Cotton Soil. Its moisture retaining capacity is large, so that after a normal rainy season the soil can produce a winter crop without irrigation. But when the soil is dry, it becomes very stiff and splits up to produce great fissures. In fact, ploughing and sowing are almost impossible in a dry karial

soil and irrigation is impracticable, since water is bound to sink all too rapidly through the cracks in the soil. Owing to the difficulties of irrigation, agriculture is dependent on rainfall and a failure of the monsoon rains involves the loss of both the Kharif and Rabi crops.

Chapter - 4

PATTERN OF SOCIAL & ECONOMIC DEVELOPMENTS AND DISPARITIES IN EASTERN UTTAR PRADESH

One of the most serious problems in India is the regional disparities and it causes social, economic and political instability. This problem is found every where in India. Therefore, the author has selected to study the Eastern Uttar Pradesh, which is essentially an agricultural region of Uttar Pradesh. Here about 68 percent of population rest upon agriculture for their livelihood. As far as the development of this region is concerned, there is considerable spatial disparity in the level of development. Development interms of industrialization, urbanization, communication and other sectors are found only in few areas while the others are backward.

The present chapter is an attempt to measure spatial pattern of social and economic development and disparities in Eastern Uttar Pradesh. Such type study provides a base for national planning and helps researchers, administrators, policy makers and planners to identify regions at different levels of development. Thus measurement of disparities in terms of regional dimension is one of the major pre-requisites

for balance development because it provides policy guidance at the time of formulating plans for backward area development.

In order to identify backward region, to measure levels of sectoral and overall development and the extent of disparities in Eastern Uttar Pradesh, the author has selected the following nine sectors and their respective indicators :

I- AGRICULTURAL SECTOR:

(i) Netsown Area as percentage to the total geographical area.

(ii) Area sown more than once as percentage to the netsown area.

(iii) Cropping intensity (GSA/NSA) x 100

(iv) Irrigation extent (GIA/GSA) x 100

(v) Irrigation Intensity (GIA/NIA) x 100

(vi) Per capita availability of cropped area in hectare to the total population.

(vii) Cultivators as percentage to the working population.

(viii) Percentage of agricultural labours to the total worker.

(ix) Number of tractors/ 10,000 hectare of NSA.

(x) Number of electric pump sets/1,000 hectare of NSA.

(xi) Number of oil engines/1,000 hectare of NSA.

(xii) Consumption of fertilizer/hectare in kg.

II- INDUSTRIAL SECTOR:

(i) Number of industrial units per 10,000 population.

(ii) Number of industrial units per 100 sq. km. area.

(iii) Percentage of industrial worker to the total population.

(iv) Industrial workers/100 sq.km. area.

III- EDUCATIONAL SECTOR:

(i) Percentage of literate to total population.

(ii) Percentage of male literate to male population.

(iii) Percentage of female literate to female population.

(iv) Percentage of urban literate to urban population.

(v) Percentage of rural literate to rural population.

IV- TRANSPORTATION SECTOR:

(i) Surface of road length/100 sq.km.

(ii) Village link by road.

(iii) Surface road in km.

V- COMMUNICATION SECTOR:

(i) Number of post offices/sq.km.

(ii) Number of post offices/100,000 population.

(iii) Number of Telephone exchange/1,000 sq.km.

VI- HEALTH SECTOR:

(i) Population served per Hospital.

(ii) Hospital and dispensary/1,000 sq.km.

(iii) Hospital bed/100,000 population.

VII- BANKING SECTOR:

(i) Population Served / Bank.

(ii) Bank offices/1,000 sq.km.

VIII- CO-OPERATIVE SECTOR:

(i) Number of Societies/1,000 sq.km.

(ii) Population served/society.

(iii) Agricultural Co-operative Society/1,000 sq.km.

IX- POWER SECTOR:

(i) Number of electrified villages.

(ii) Percentage of village electrified.

These sectors and their respective indicators were analysed with the help of a simple method known as composite index. Since the indicator varies from one region to another in their occurrence and they are not equally important. Therefore different weights are assigned to different indicators by the method of percent proportional standardised mean, that is to say the weight assigned to one indicator is calculated by using $\bar{x}/\sigma$ for each indicator where $\bar{x}$ is the mean of the series of one particular indicator and σ is the standard deviation for same series. This $\bar{x}/\sigma$ is the weight of each indicator. The formula for composite index number used is

$$C.I. = \frac{x_1w_1 + x_2w_2 + x_3w_3 \ldots\ldots x_{10}w_{10}}{w_1 + w_2 + w_3 \ldots\ldots w_{10}}$$

x = Raw score of any indicator

$$w_1 = \frac{\bar{x}}{\sigma} \quad \text{or} \quad \frac{\text{Mean}}{\text{S.D.}}$$

C.I = Composite Index

The summary statistics of the indicators used in this study was processed with the help of above formula and the results obtained for sectoral development and overall development are given in different tables.

4.1 SECTOR-WISE DEVELOPMENT AND DISPARITIES

I- Agriculture:

Agriculture sector is one of the most important sectors in Indian economy because about 70 percent population in India is engaged in this activity. In Eastern Uttar Pradesh also agriculture is the main sector. Therefore a number of indicators such as extent of area under various crops, net sown area, cropping intensity, irrigation, fertilizer consumption and so on have been considered to determine the agricultural development for the years 1981, 1991 and 1996, (Table No. 4.1).

Table 4.1: Agricultural Development

Districts	1981	1991	1996
Allahabad	74.02	154.64	175.02
Azamgarh	87.00	91.44	112.91
Bahraich	75.00	91.07	110.30
Ballia	80.19	134.09	103.58
Basti	81.63	174.80	96.73
Deoria	77.73	106.57	106.22
Faizabad	82.66	185.84	120.89
Ghazipur	79.14	172.16	106.42
Gonda	79.00	110.07	96.58
Gorakhpur	81.64	154.22	107.92
Jaunpur	78.00	190.34	104.32
Mirzapur	71.86	92.65	96.18

Pratapgarh	72.70	151.87	197.62
Sultanpur	75.14	138.25	162.55
Varanasi	80.38	196.52	106.13
Maharajganj	0.00	0.00	113.99
Mau	0.00	240.85	117.86
S. Nagar	0.00	167.94	101.37
Sonbhadra	0.00	0.00	0.00

On the basis of the above composite index, the Eastern Uttar Pradesh is divided into high, medium and low level of agricultural development for all three years (Table 4.1a).

Table 4.1a: Levels of Agricultural Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 80	6	Azamgarh, Ballia, Basti, Faizabad,Gorakhpur,Varanasi
Medium	75-80	5	Deoria, Ghazipur, Gonda, Jaunpur, Sultanpur
Low	< 75	4	Allahabad, Bahraich, Mirzapur, Pratapgarh.
1991			
High	> 200	1	Mau
Medium	150-200	9	Allahabad, Basti, Faizabad, Ghazipur,Gorakhpur,Jaunpur, Pratapgarh, Varanasi and Siddarth Nagar
Low	< 150	7	Azamgarh, Bahraich, Ballia, Deoria, Gonda, Mirzapur, Sultanpur
1996			
High	> 150	3	Allahabad, Pratapgarh, Sultanpur.
Medium	100-150	12	Azamgarh, Bahraich, Ballia, Deoria, Faizabad, Ghazipur, Gorakhpur, Jaunpur, Varanasi, Maharajganj, Mau, Siddharth Nagar
Low	< 100	3	Basti, Gonda, Mirzapur

A perusal of table no. 4.1a indicate that in general there is medium and high level agriculture development in more than half of the districts of the region in all three years. Mirzapur is the only district which remained in the low level in all periods because here land is hilly tract, and soil is not very good for agriculture. Therefore here development is low. Azamgarh and Basti are the two other district, which were under high level category in 1981 but moved to low and medium categories in others periods because of the creation of Mau districts from Azamgarh and Siddharth Nagar district from Basti. Gonda is the other district, which was under medium category in 1981, but moved to low level of category in 1991 and 1996. Allahabad, Sultanpur and Pratapgarh are such districts which were under low and medium categories in 1981 and 1991 but they made a good progress in agricultural field in 1996 and attained the level of high category. However in general it can be said that most of the districts of Eastern Uttar Pradesh recorded the medium and high level development in agriculture in 1996. This indicates the higher use of fertilizers, high yielding variety of seeds, irrigation, tractors and other modern implements. But in some areas the low level development is due to unfavourable topography, lack of capital and lack of diffusion of agricultural innovations etc.

II- Industries:

Industrial development has been gaining importance to diversify economy and to use non-agricultural land for this purpose. On the basis of different indicators, the composite index of industrial sector for the year 1981, 1991 and 1996 is prepared (Table No. 4.2) and on the basis of this table, high, medium and low level development in industries has been studied is Eastern Uttar Pradesh (Table No. 4.2a).

Table 4.2: Industrial Development

Districts	1981	1991	1996
Allahabad	2.85	68.78	316.79
Azamgarh	1.17	26.95	31.22
Bahraich	0.40	2.57	26.26
Ballia	1.62	11.46	82.92
Basti	0.98	34.02	96.67
Deoria	0.59	37.64	160.01
Faizabad	0.91	28.34	49.17
Ghazipur	1.70	5.61	63.78
Gonda	0.40	7.03	78.48
Gorakhpur	1.63	70.34	453.31
Jaunpur	0.49	12.34	69.92
Mirzapur	1.21	77.90	25.58
Pratapgarh	1.42	7.52	5.78
Sultanpur	0.63	5.55	76.16
Varanasi	4.50	64.88	388.87
Maharajganj	0.00	0.00	73.91

Mau	0.00	0.00	153.95
S. Nagar	0.00	0.00	0.00
Sonbhadra	0.00	0.00	183.35

The table 4.2(a) reveals that Allahabad and Varanasi are two most important districts in this region as they maintained high level development in all three years. Gorakhpur and Mirzapur are other important districts. Both were in medium level category of development in 1981 and they made good progress in industrial development in eighties and nineties. Due to this, both attained high level development category in 1991 and in 1996 Gorakhpur maintained this category but Mirzapur entered in the low level development category because of creation of Sonbhadra district which joined the category of medium level development. Azamgarh is also an important district in this region which was in medium level development in 1981 and 1991 but in 1996, it joined the low level category due to the creation of Mau district. Mau replaced the Azamgarh in 1996. Deoria made some progress in the field of industries and improved its category from low in 1981 to medium in 1991 and 1996. Besides these districts, the other districts in general recorded the low level development in industries in 1991 and 1996.

Table 4.2a: Levels of Industrial Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 2	2	Allahabad, Varanasi
Medium	1-2	6	Azamgarh, Ballia, Ghazipur, Mirzapur, Pratapgarh, Gorakhpur.
Low	< 1	7	Bahraich, Basti, Deoria, Faizabad, Gonda, Jaunpur.
1991			
High	> 50	4	Allahabad, Gorakhpur, Mirzapur, Varanasi
Medium	25-50	4	Azamgarh, Basti, Deoria, Faizabad
Low	<25	7	Bahraich, Ballia, Ghazipur, Gonda, Jaunpur, Pratapgarh, Sultanpur
1996			
High	>300	3	Allahabad, Gorakhpur, Varanasi
Medium	150-300	3	Deoria, Mau and Sonbhadra
Low	< 150	12	Azamgarh, Bahraich, Ballia, Basti, Faizabad, Ghazipur, Gonda, Jaunpur, Mirzapur, Pratapgarh, Sultanpur, Maharajganj

Thus it can be said that high and medium level development is found only in few districts where the development of some small scale and some other industrial units is the cause for this development. While the low level development in industries is attributed to the fact that in general in these district, there is a good development in agriculture and more than the seventy percent of the total population is engaged in agricultural activity.

III- Education:

Levels of educational development can be assessed both by way of flow concept and stock concept. The number of students enrolled etc. is a flow concept while percentage of literate can be treated as stock concept. After survey, the indicator for whom the data was available at district level, the author selected literacy level, percentage of total literate to total population, total male literate to male population, total female literate to female population and so on. On the basis of these information a composite index has been prepared for the educational development for the year 1981, 1991 and 1996 in Eastern Uttar Pradesh (Table 4.3). Then on the basis of this composite index, the high, medium and low levels development of education have been studied (Table no. 4.3a).

Table 4.3: Educational Development

Districts	1981	1991	1996
Allahabad	19.08	42.88	25.44
Azamgarh	17.96	39.23	23.43
Bahraich	11.47	27.78	14.67
Ballia	19.68	45.34	26.25
Basti	18.86	32.53	45.35
Deoria	25.84	37.40	21.58
Faizabad	18.00	39.70	25.06
Ghazipur	19.62	41.97	25.77

Gonda	11.15	31.75	16.51
Gorakhpur	17.19	36.54	26.10
Jaunpur	18.78	40.16	25.15
Mirzapur	16.62	36.89	22.99
Pratapgarh	17.13	40.60	24.74
Sultanpur	15.80	40.69	23.53
Varanasi	21.96	42.87	27.64
Maharajganj	0.00	35.13	17.58
Mau	0.00	45.36	25.55
S. Nagar	0.00	33.89	16.46
Sonbhadra	0.00	39.00	20.34

The table 4.3a indicates that in 1981, high level development is found in Varanasi and Deoria districts and low level development is recorded in Bahraich and Gonda districts, while all the other districts of Eastern Uttar Pradesh have medium level development in education. But situation has changed in 1991 and 1996. In 1991, eight districts and in 1996 nine districts recorded the high level development. Allahabad, Ballia, Ghazipur, Jaunpur and Mau (separated from Azamgarh) were under the medium level category in 1981, but due to good progress, these districts entered in the high level development category in 1991 and 1996. Faizabad and Gorakhpur also improved their category from medium level in 1981 and 1991 to high level in 1996. Similarly, Basti also made good progress and entered in the high level

development category in 1996, while it was in medium level category in 1981 and low level category in 1991. Pratapgarh and Sultanpur are such districts which improved their position from medium level in 1981 to high level in 1991 but they again slipped to medium level in 1996 due to slow progress in educational development during this period. Deoria is the only district, which was in high level development category in 1981 and moved to medium level in 1991 and 1996 due to slow progress. Varanasi is the only district which maintained its high level development in all the periods. Azamgarh and Mirzapur also maintained their medium level category in all periods while Bahraich and Gonda are least developed district and remained in low level category in all periods. The position of newly created districts Sonbhadra, Maharajganj and Siddarth Nagar is also not good. Sonbhadra and Siddharth Nagar remained in their respective medium and low levels categories in 1991 and 1996. While Maharajganj moved to low level category in 1996 from medium level category in 1991.

Table 4.3a: Levels of Educational Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 20	2	Varanasi, Deoria
Medium	15-20	11	Allahabad, Azamgarh, Ballia, Basti, Faizabad, Ghazipur, Gorakhpur, Jaunpur, Mirzapur, Pratapgarh, Sultanpur
Low	< 15	2	Bahraich, Gonda
1991			
High	> 40	8	Allahabad, Ballia, Ghazipur, Jaunpur, Mau, Pratapgarh, Sultanpur, Varanasi.
Medium	35-40	7	Azamgarh, Deoria, Fiazabad, Gorakhpur, Mirzapur, Sonbhadra, Maharajganj
Low	< 35	4	Bahraich, Basti, Gonda, Siddarth Nagar
1996			
High	> 25	9	Allahabad, Ballia, Faizabad, Ghazipur, Mau, Gorakhpur, Jaunpur, Basti, Varanasi.
Medium	20-25	6	Azamgarh, Deoria, Mirzapur, Pratapgarh, Sultanpur, Sonbhadra
Low	< 20	4	Bahraich, Gonda, Siddarth Nagar, Maharajganj

The educational development facilities of schools and colleges are mainly confined to urban centres and there are very few schools and colleges in rural areas. It leads the disparities in the levels of educational development, if we compare it from urban to rural areas. The high level development has been recorded only in those districts which have large number of settlements in terms of population, while

rural areas have low level development, though the efforts are being made by the government.

IV- Transport:

Transport is an essential economic infrastructure for the rapid development of any region. In an planned economy, location of industries, development of backward areas, decentralization of economic activities, better distribution of products, better maintenance of law and order situation, defence and security all necessitate a proper system of transport. The modern concept of growth centres and growth poles etc. in regional planning can meaningfully be implemented, only if there is proper transport network within a region. The lack of transport facilities retard the process of economic development even, if a region is endowed with rich mineral resources or other natural resources, because their availability and utilization may not always concide. Therefore it is said that in the regional development of any region, there should be well developed transport system. The Eastern Uttar Pradesh is well connected with the internal transport system of the country. The region is well served with the Railways and Roadways and the three districts namely – Varanasi,

Allahabad and Gorakhpur are also connected with the different parts of the country by Airways.

Thus considering the transport system in the study region, a composite index (Table no. 4.4) has been prepared and on the basis of this index, the region is classified into high, medium and low levels of development (Table No. 4.4a).

Table 4.4: Transport Development

Districts	1981	1991	1996
Allahabad	239.99	358.03	357.90
Azamgarh	198.70	310.89	348.57
Bahraich	177.24	222.21	251.52
Ballia	211.15	307.22	335.53
Basti	154.55	229.08	216.75
Deoria	174.21	235.17	281.72
Faizabad	175.24	244.13	295.69
Ghazipur	210.11	366.20	389.36
Gonda	179.90	225.38	225.52
Gorakhpur	152.86	187.61	263.41
Jaunpur	216.47	339.41	336.92
Mirzapur	246.50	372.74	234.69
Pratapgarh	220.43	327.00	354.65
Sultanpur	233.82	381.49	360.56
Varanasi	203.80	363.35	478.18
Maharajganj	0.00	259.10	227.75
Mau	0.00	278.07	321.66
S. Nagar	0.00	226.55	160.07
Sonbhadra	0.00	355.69	261.63

The table 4.4a indicates that the transport system is well developed in most of the districts of the region as nearly fifty percent districts recorded the high level development in all the periods. Allahabad, Ballia, Ghazipur, Jaunpur, Pratapgarh, Sultanpur and Varanasi maintained the high level development in 1981, 1991 and 1996. Mirzapur was in high level category in 1981, and 1991 but moved to low level category in 1996 due to slow progress, while Azamgarh was in medium level category in 1981 but improved its category from medium to high level in 1996. Similarly Mau district, separated from Azamgarh was in medium level in 1991, also improved the category to high level in 1996. Bahraich, Faizabad and Gonda were in medium level category in 1981, and they moved to low level category in 1991 due to slow development. But in 1996, Bahraich and Faizabad improved the position to be medium level category while Gonda remained in low level category. Basti, Deoria and Gorakhpur are the other districts of the region, which remained in low level category in 1981 and 1991 due to slow progress. In 1996, Basti remained in the same category, while Deoria and Gorakhpur moved to medium level due to some development in transport networks. The newly created district Sonbhadra from Mirzapur was in high level category in 1991, but joined

the medium level category in 1996. Similarly Maharajganj also moved to low level category in 1996 from medium level category in 1991, while the Siddharth Nagar remained in low level category in both the periods.

Table 4.4a: Levels of Transport Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 200	8	Allahabad, Ballia, Ghazipur, Jaunpur, Mirzapur, Varanasi, Pratapgarh, Sultanpur
Medium	175-200	4	Azamgarh, Bahraich, Gonda, Faizabad
Low	< 175	3	Basti, Deoria, Gorakhpur
1991			
High	> 300	10	Allahabad, Azamgarh, Ballia, Ghazipur, Jaunpur, Mirzapur, Pratapgarh, Sultanpur, Varanasi, Sonbhadra.
Medium	250-300	2	Maharajganj and Mau
Low	< 250	7	Bahraich, Basti, Deoria, Faizabad, Gonda, Gorakhpur, Siddarth Nagar
1996			
High	> 300	9	Allahabad, Azamgarh, Ballia, Ghazipur, Jaunpur, Varanasi, Pratapgarh, Sultanpur, Mau
Medium	250-300	5	Faizabad, Gorakhpur, Deoria, Sonbhadra, Bahraich
Low	< 250	5	Basti, Gonda, Mirzapur, Siddarth Nagar, Maharajganj

V- Communication:

It is rightly observed by the famous economist ***Arthur Lewis*** that a cheap and extensive network of communication is the greatest blessing which any country can have from the

economic point in view. Development of communication system as that of transport system is vital in creating economic infra-structure for the industrial and agricultural development of the economy. Communication is not only an amenity but in fact a key sector in economic development and constitute the life line of industry and commerce. There is direct and positive relationship between communication and economic development. Important means of communication are post and telegraph, telephones and radios, televisions, computers, internets etc. In India this is the important sector and is under the direct control of the central government. The regional development of this sector very much depends upon the policies of the central government. However, as stated earlier, there is a direct relationship between the level of economic development and the development of communications and therefore the use of communication services and means can be studied to analyse the regional disparities in economic development. Thus the data of communication services for the Eastern Uttar Pradesh has been studied and a composite index has been prepared (Table No. 4•5). Then on the basis of this composite index the Eastern Uttar Pradesh has been classified into high, medium and low levels of development. (Table 4.5a).

Table 4.5: Communication Development

Districts	1981	1991	1996
Allahabad	0.46	0.56	0.106
Azamgarh	0.18	0.20	0.096
Bahraich	0.16	0.18	0.064
Ballia	0.18	0.22	0.126
Basti	0.46	0.19	0.124
Deoria	0.14	0.15	0.048
Faizabad	0.26	0.33	0.089
Ghazipur	0.28	0.19	0.114
Gonda	0.15	0.18	0.035
Gorakhpur	0.17	0.45	0.120
Jaunpur	0.15	0.17	0.114
Mirzapur	0.23	0.25	0.048
Pratapgarh	0.15	0.18	0.094
Sultanpur	0.19	0.25	0.117
Varanasi	0.59	0.78	0.112
Maharajganj	0.00	0.20	0.073
Mau	0.00	0.23	0.132
S. Nagar	0.00	0.12	0.152
Sonbhadra	0.00	0.30	0.033

The table 4.5a shows that means of communication in Eastern Uttar Pradesh has made good progress from 1981 to 1991 and 1996. In 1981, 3 districts were under high level development and 3 districts were under medium level development. In 1991, 3 districts were under high level category and 8 districts were in the medium level category.

But in 1996, 10 districts and 5 districts joined the categories of high level and medium level respectively. Low level development category districts were 9 in 1981 and 8 in 1991 but remained only 4 in 1996.

Table 4.5a: Levels of Communication Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 0.40	3	Allahabad, Basti, Varanasi
Medium	0.20 to 0.40	3	Faizabad, Ghazipur, Mirzapur
Low	< 0.20	9	Azamgarh, Bahraich, Ballia, Deoria, Jaunpur, Gorakhpur, Gonda, Pratapgarh, Sultanpur
1991			
High	> 0.40	3	Allahabad, Gorakhpur, Varanasi
Medium	0.20 – 0.40	8	Azamgarh, Ballia, Faizabad, Mirzapur, Sultanpur, Mau, Sonbhadra, Maharajganj
Low	< 0.20	8	Bahraich, Basti, Ghazipur, Deoria, Gonda, Pratapgarh, Jaunpur, Siddarth Nagar
1996			
High	> 0.10	10	Allahabad, Ballia, Basti, Ghazipur, Gorakhpur, Mau, Janupur, Sultanpur, Varanasi, Siddarth Nagar
Medium	0.05-0.10	5	Azamgarh, Bahraich, Faizabad, Pratapgarh, Maharajganj
Low	< 0.05	4	Deoria, Gonda, Mirzapur, Sonbhadra

Allahabad and Varanasi recorded the high level development in all the periods while Basti was in the high level development category in 1981 and due to slow progress it moved to low level category in 1991 but in 1996 it improved its

category and further joined the high level category. Faizabad, Ghazipur and Mirzapur districts were in medium level category in 1981. Faizabad maintained its category in all the period while Mirzapur maintained its category in 1991 but it slipped to low level category in 1996 due to slow growth in means of communication. Similarly Ghazipur joined the low level category in 1991 but due to good progress in means of communication it entered the high level category in 1996. Azamgarh was in low level category in 1981 but improved its category to medium level in 1991 and 1996. Ballia and Sultanpur maintained continous progress and due to this they improved their categories from low in 1981 to medium in 1991 and high in 1996. Gorakhpur was in low level category but due to good progress it entered high level category in 1991 and maintained its position 1996 also while Jaunpur made a very slow progress in 1981 and 1991 and remained in low level category in these two periods, but in the next period it made high progress and entered the high level category. Deoria, Gonda, Bahraich and Pratapgarh made slow progress in development of means of communication and due to this Deoria and Gonda remained in low level category in the all period while Bahraich and Pratapgarh made some progress in 1996 and moved from low level category in 1981 and 1991 to

medium level category in 1996. The newly created districts Sonbhadra, Maharajganj, Mau and Siddharth Nagar made different type progresss in 1991 and 1996. Mau moved to high level category in 1996 from medium level category in 1991, while Maharajganj remained in medium level category in both the period. Similarly Sonbhadra slipped to low level category in 1996 from medium level category in 1991 where as Siddharth Nagar entered the high level category in 1996 from low level category in 1991.

VI- Health:

It is rightly said that "health is wealth". The ultimate aim of all economic policies is to achieve a healthy nation. A healthy nation can emerge only when there is adequate supply of properly balanced food and people are not under nourished or malnurished. Poverty and health do not go together and therefore in order to improve the health standard, it is imperative to eliminate poverty. It is really more important for the health of the nation that there should be adequate nutrition, supply of pure water, good sanitation and lack of pollution. Thus a war on ill-health is essentially a war on poverty and all its blood. The nation should have health approaches in all its socio-economic schemes and should give

health education to the masses. The nation should also give good and adequate health services to the community. A successful approach is one when the disproportion is corrected by giving priority in the allocation of funds and personals to the rural areas and backward regions. In regional disparities, the availability of health facilities should be brought down by providing accessibility to these services and facilities to the large masses living in the rural and backward regions.

In Eastern Uttar Pradesh, the health services have been studied for the periods, 1981, 1991 and 1996. On the basis of these services a composite index (Table 4.6) has been prepared for all three years. Then the region is divided into high, medium and low level development categories (Table 4.6a).

Table 4.6: Health Development

Districts	1981	1991	1996
Allahabad	2.14	4.21	5.66
Azamgarh	1.02	3.30	2.69
Bahraich	5.20	2.25	2.08
Ballia	1.51	3.60	3.38
Basti	0.90	3.20	3.00
Deoria	0.92	3.11	1.58
Faizabad	1.36	3.49	3.32
Ghazipur	1.18	3.52	2.56

Gonda	1.36	2.25	2.57
Gorakhpur	1.51	4.16	5.25
Jaunpur	0.96	3.53	2.53
Mirzapur	1.08	3.36	2.71
Pratapgarh	1.01	3.71	3.15
Sultanpur	1.70	3.39	3.21
Varanasi	2.27	4.37	6.02
Maharajganj	0.00	2.52	1.00
Mau	0.00	3.57	3.31
S. Nagar	0.00	2.46	1.88
Sonbhadra	0.00	2.95	2.49

The table 4.6a shows that only Allahabad and Varanasi maintained high level development in all three periods while Gorakhpur was in medium level category in 1981 and improved its position to high level category in 1991 and 1996. Bahraich is the only district, which was in high level category in 1981, but due to slow progress joined to low level category in 1991 and 1996. Ballia, Faizabad, Pratapgarh and Sultanpur districts maintained the medium level category in all the periods while Azamgarh, Ghazipur and Mirzapur districts moved to low level category in 1996 from medium level category in 1981 and 1991 due to slow progress in health sector. Basti, Deoria and Jaunpur districts were in the low level category in 1981 and improved their position to medium level category in 1991 but in 1996, only Basti maintained its

position where as Deoria and Jaunpur moved to low level category due to less development in this sector. Gonda was medium level category in 1981 but in 1991 and 1996 it entered into the low level category.

Table 4.6α:Levels of Health Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 2	3	Allahabad, Bahraich, Varanasi
Medium	1-2	9	Azamgarh, Ballia, Faizabad, Ghazipur, Gonda, Gorakhpur, Mirzapur, Pratapgarh, Sultanpur.
Low	< 1	3	Basti, Deoria, Jaunpur
1991			
High	> 4	3	Allahabad, Gorakhpur, Varanasi
Medium	3-4	11	Azamgarh, Ballia, Basti, Deoria, Faizabad, Ghazipur, Jaunpur, Mirzapur, Sultanpur, Mau, Pratapgarh
Low	< 3	5	Bahraich, Gonda, Siddarth Nagar, Sonbhadra, Maharajganj
1996			
High	> 5	3	Allahabad, Gorakhpur, Varanasi
Medium	3-5	6	Ballia, Basti, Faizabad, Pratapgarh, Sultanpur, Mau
Low	< 3	10	Azamgarh, Bahraich, Deoria, Ghazipur, Gonda, Jaunpur, Mirzapur, Siddarth Nagar, Sonbhadra, Maharajganj

The newly created district Mau remained in medium level category in 1991 and 1996, while the other districts Siddharth

Nagar, Sonbhadra and Maharajganj remained in low level category in 1991 and 1996.

VII- Bank:

Banks are vital financial institutions in economy. Their role in economic development is very crucial as banks act as depositories of the community's saving and purvey our credit. All the economic sectors of any economy have links with banking network. Banks on the one hand mobilize savings of the community and on the other hand finances the vital economic activities like industries, trade, commerce, agriculture and other essential sectors like health, education and so on.

In order to assess the magnitude of banking sectoral backwardness and to identify backward district a detailed exercise has been done to prepare the composite index with the help of data for Eastern Uttar Pradesh (Table 4.7) Then on the basis of composite index, the high, medium and low level development categories of banking facilities have been presented in table 4.7a.

Table 4.7: Banking Development

Districts	1981	1991	1996
Allahabad	15.42	10.74	18.35
Azamgarh	20.89	11.52	19.84
Bahraich	17.58	11.65	19.64
Ballia	15.08	10.47	17.59
Basti	23.02	12.96	22.06
Deoria	17.95	14.66	45.48
Faizabad	16.58	12.24	20.00
Ghazipur	16.04	10.74	18.10
Gonda	24.17	13.19	22.00
Gorakhpur	16.45	7.94	19.13
Jaunpur	14.40	11.88	44.18
Mirzapur	14.16	11.12	18.75
Pratapgarh	15.17	10.95	17.99
Sultanpur	19.63	11.57	19.62
Varanasi	11.28	10.81	18.13
Maharajganj	0.00	0.00	23.56
Mau	0.00	11.88	20.46
S. Nagar	0.00	13.49	21.38
Sonbhadra	0.00	10.99	17.14

The table 4.7a indicates that in 1981 Azamgarh, Basti and Gonda district were in high level category and Basti and Gonda maintained their positions in 1991 and 1996, but Azamgarh entered the medium level category in next two periods. Similarly, Allahabad, Bahraich, Ghazipur and Sultanpur, remained in medium level category in all the

periods. Deoria district improved its position from medium level categoy in 1981 to high level category in 1991 and 1996. Pratapgarh and Ballia are such districts where medium level development is found in 1981 and 1991 but this development decreased to low level development in 1996. Faizabad and Gorakhpur were in medium level development category in 1981 and in 1991 Faizabad joined the high level development category and Gorakhpur moved downward to low level development category but in 1996, both the districts again joined the medium level development category. Jaunpur, Mirzapur and Varanasi are the other districts of the region which were in low level category in 1981, but due to good progress, they improved their position to medium level category in 1991 and in 1996 Mirzapur and Varanasi maintained their position while Jaunpur further improved to high level category. The newly developed district Siddharth Nagar remained in high level category in 1991 and 1996 and Maharajganj and Mau districts improved the position from medium level in 1991 to high level category in 1996 while Sonbhadra moved to low level category in 1996 from medium level category in 1991.

Table 4.7a: Levels of Banking Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 20	3	Azamgarh, Basti, Gonda
Medium	15-20	9	Allahabad, Bahraich, Ballia, Deoria, Faizabad, Ghazipur, Gorakhpur, Pratapgarh, Sultanpur
Low	< 15	3	Jaunpur, Mirzapur, Varanasi
1991			
High	> 12	5	Basti, Deoria, Faizabad, Gonda, Siddarth Nagar
Medium	10-12	12	Allahabad, Azamgarh, Bahraich, Ballia, Ghazipur, Jaunpur, Mirzapur, Pratapgarh, Sultanpur, Varanasi, Sonbhadra, Mau
Low	< 10	1	Gorakhpur
1996			
High	> 20	7	Basti, Deoria, Gonda, Jaunpur, S. Nagar, Maharajganj, Mau
Medium	18-20	9	Allahabad, Azamgarh, Bahraich, Faizabad, Varanasi Ghazipur, Gorakhpur, Mirzapur, Sultanpur,
Low	< 18	3	Ballia, Pratapgarh, Sonbhadra

VIII- Co-operative Society:

Rural indebtendness in our country has since long been a bone of rural economy. Our villages have been proverbial for their illteracy and being unconnected in very respect with the comparatively more developed areas and having remained centres of backwardness and poverty. Agriculture has not been a paying profession for the growers and they could not have any surplus and side by side rural people have been found to be less in the habit of savings. Thus, the most

important problem of rural economy has been its indebtendness. Therefore, the co-operative movement was introduced in India in 1904, almost solely for the purpose of prediction of the evils of indebtendness. With the introduction of co-operative movement, the co-operative societies were introduced. This co-operative movement seems to be more keen to the agricultural sectors and its development and co-operative societies have spread more in those areas where modern banking facilities are lacking or where the regions are mainly rural in nature. In Uttar Pradesh, the spread of co-operative societies can be considered to be satisfactory. The development of these societies in Eastern Uttar Pradesh has been analysed for the year 1981, 1991 and 1996 (Table N. 4.8) and on the basis of this analysis high, medium and low level of development categories have been made for all three periods (Table 4.8a).

Table 4.8: Co-operative Societies Development

Districts	1981	1991	1996
Allahabad	3.43	5.77	6.95
Azamgarh	5.68	7.88	6.40
Bahraich	2.00	2.14	3.15
Ballia	4.94	7.46	8.82
Basti	3.29	8.31	6.25
Deoria	5.41	5.39	2.49

Faizabad	4.42	4.97	3.96
Ghazipur	4.96	6.19	7.13
Gonda	2.76	3.15	5.24
Gorakhpur	4.08	3.95	11.17
Jaunpur	4.93	7.03	6.85
Mirzapur	1.23	4.15	4.11
Pratapgarh	4.23	6.42	6.15
Sultanpur	3.65	5.38	3.03
Varanasi	4.37	6.45	7.66
Maharajganj	0.00	0.00	0.16
Mau	0.00	0.00	5.72
S. Nagar	0.00	0.00	5.34
Sonbhadra	0.00	0.00	0.00

The table 4.8a indicates that Azamgarh, Ballia, Ghazipur, Jaunpur, Pratapgarh and Varanasi districts maintained high level development in all periods. Deoria, Faizabad and Gorakhpur are the other districts which were under high level category in 1981 but they could not maintain their position in next periods. Such as Deoria and Faizabad move to medium level category in 1991 and to low level category in 1996 due to slow progress in co-operative societies, while Gorakhpur moved to low level category in 1991 but in 1996 it again improved the position and joined the high level category. Allahabad, Basti, Gonda and Sultanpur were medium level category in 1981. Allahabad remained in its

category in 1991 also but in 1996 it improved the position to join high level category. Similarly Basti also moved to high level in 1991 and maintaiend its position in 1996 also due to good progress. Gonda joined the low level category in 1991 but again improved the category from low level to medium level in 1996 where as Sultanpur remained in its position in 1991 also but in 1996 its position declined to low level category. Bahraich and Mirzapur are the two districts which were under low level category in 1981. Bahraich remained in its position in all periods while Mirzapur improved the position from low level category in 1981 to medium level category in 1991 as well as 1996 also. The newly developed districts Siddharth Nagar and Mau were in medium level category and Maharajganj was in low level category in 1996.

Table 4.8a: Levels of Co-operative Societies Development

Levels of *Development*	Composite *Index Range*	No. of *Districts*	Name of the districts
1981			
High	> 4	9	Azamgarh, Ballia, Deoria, Faizabad, Ghazipur, Gorakhpur, Jaunpur, Pratapgarh, Varanasi
Medium	2-4	4	Allahabad, Basti, Gonda, Sultanpur
Low	< 2	2	Bahraich, Mirzapur
1991			
High	> 6	7	Azamgarh, Ballia, Basti, Ghazipur, Jaunpur, Pratapgarh, Varanasi
Medium	4-6	5	Allahabad, Deoria, Faizabad, Mirzapur, Sultanpur
Low	< 4	3	Bahraich, Gonda, Gorakhpur

1996			
High	> 6	9	Allahabad, Azamgarh, Ballia, Basti, Ghazipur, Gorakhpur, Jaunpur, Pratapgarh, Varanasi
Medium	4-6	4	Mirzapur, Gonda, Mau, Siddarth Nagar
Low	< 4	5	Bahraich, Deoria, Faizabad, Sultanpur, Maharajganj

IX- Power:

Power is an essential energy input to sustain the economic activities of a region and for its socio-economic growth. High standard of living and high productivities of industry and agriculture have been possible due to abundant supply of energy at low price. In fact there is a direct relationship between the use of energy and level of development. There are three sources of power namely – coal, petroleum and hydro-power. In view of the increase in the prices of oil and coal, the hydro-power constitutes the most economic source of power development in the country. It is estimated that hydro-power stations contribute about 40 percent to the total present production of electrical energy in the country.

The availability of cheap and reliable electric power stimulates industrial activity. The per capita consumption of electric energy is one of the reliable indicators for the economic

prosperity of a region. Therefore, it is essential that all the regions should be benefited from the electric power for the rapid industrialization and development of backward areas. Therefore, in this study an attempt has been made to examine the levels of power development in districts of Eastern Uttar Pradesh. For this a composite index of power development in different districts has been prepared (Table 4.9) and on the basis of this index high, medium and low levels of development in different districts have been studied (Table 4.9a).

Table 4.9: Power Development

Districts	1981	1991	1996
Allahabad	65.31	108.00	191.13
Azamgarh	38.72	87.34	137.81
Bahraich	24.03	65.86	43.87
Ballia	26.75	94.17	84.92
Basti	27.85	45.33	38.51
Deoria	30.65	63.41	55.08
Faizabad	47.87	86.95	104.64
Ghazipur	38.65	97.61	93.59
Gonda	24.58	55.00	52.81
Gorakhpur	34.84	73.72	96.28
Jaunpur	28.55	89.51	84.27
Mirzapur	137.15	53.97	931.38
Pratapgarh	25.54	66.39	47.21
Sultanpur	58.10	92.46	79.60
Varanasi	48.18	84.44	138.31

Maharajganj	0.00	21.67	113.26
Mau	0.00	25.00	1179.03
S. Nagar	0.00	11.80	60.88
Sonbhadra	0.00	512.63	1394.17

A perusal of table 4.9a shows that in Eastern Uttar Pradesh the power development was slow in 1981 and 1991 but after 1991 power development was high. In 1981 only two districts namely Allahabad and Mirzapur were in high level category and in 1991 again two districts – Allahabad and Sonbhadra (newly created districted from Mirzapur) were in this category but 1996 beside these two districts, six more districts joined the high level development category. Mirzapur was in high level category in 1981 and due to creation of Sonbhadra district from Mirzapur in 1991 it slipped to medium level category but in 1996 due to good growth in power sector it again joined the high level category. Azamgarh, Faizabad and Varanasi were in medium level category in 1981 and 1991 but due to good growth they moved to high level category in 1996. Similarly the districts of Ballia, Deoria, Ghazipur, Gorakhpur, Jaunpur and Sultanpur due to moderate growth in power sector remained in the medium level category in the three periods. Basti and Pratapgarh are the two such districts which were in medium level category in

1981 but due to slow progress Basti moved to low level category in 1991 and 1996 while Pratapgarh maintained its position in 1991 but moved to low level category in 1996. Gonda was in low level category in 1981 and it improved its position to medium level category in the next two periods. Bahraich is the other district, which was in low category in 1981 and due to some progress entered the medium level category in 1991 but again due to slow growth it joined the low level category in 1996. The newly created districts namely Maharajganj, Siddharth Nagar and Mau were in low level category in 1991 but due to good progress in power sector these districts improved their position in 1996. Mau and Maharajganj moved to high level category while Siddharth Nagar joined the medium level category in 1996.

Table 4.9a: Levels of Power Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 50	2	Allahabad, Mirzapur
Medium	25-50	11	Azamgarh,Ballia,Basti,Deoria, Faizabad,Ghazipur,Gorakhpur, Jaunpur, Pratapgarh, Sultanpur, Varanasi
Low	< 25	2	Bahraich, Gonda
1991			
High	> 100	2	Allahabad, Sonbhadra
Medium	50-100	13	Azamgarh, Bahraich, Ballia, Deoria, Faizabad, Ghazipur, Gonda, Gorakhpur, Jaunpur, Mirzapur, Pratapgarh, Sultanpur, Varanasi
Low	< 50	4	Basti, Siddarth Nagar, Maharajganj, Mau

1996			
High	> 100	8	Allahabad, Azamgarh, Faizabad, Mirzapur, Varanasi, Sonbhadra, Maharajganj, Mau
Medium	50-100	8	Ballia, Deoria, Ghazipur, Gonda, Gorakhpur, Jaunpur, Sultanpur, Siddarth Nagar
Low	< 50	3	Bahraich, Basti, Pratapgarh

4.2 OVER-ALL DEVELOPMENT:

As far as the over all development in Eastern Uttar Pradesh is concerned, there exists a wide gap in the levels of development. The diverse physical, demographic, cultural and economic attributes of the region results in the unequal distribution of resources and therefore we find the regional variation in the levels of development in Eastern Uttar Pradesh. The analysis is based on the data for the years 1981, 1991 and 1996 (Table 4.10).

Table 4.10 Overall (Composite Index) Development

Districts	1981	Districts	1991	District	1996
Gorakhpur	310.37	Maharajganj	318.62	Bahraich	361.26
Basti	311.54	Bahraich	425.71	S. Nagar	367.53
Bahraich	313.08	Gonda	448	Gonda	499.75
Gonda	323.77	S. Nagar	456.21	Basti	525.44
Deoria	333.44	Deoria	503.50	Maharajganj	571.28
Faizabad	347.30	Gorakhpur	538.93	Faizabad	622.82
Pratapgarh	357.83	Basti	540.42	Pratapgarh	657.38
Ballia	361.10	Azamgarh	578.67	Ballia	663.12
Jaunpur	362.73	Mau	604.96	Deoria	674.21
Azamgarh	371.32	Faizabad	605.99	Jaunpur	674.25

Ghazipur	371.68	Ballia	614.03	Ghazipur	706.82
Varanasi	377.33	Pratapgarh	614.64	Sultanpur	728.38
Sultanpur	408.66	Mirzapur	653.03	Gorakhpur	982.69
Allahabad	422.70	Sultanpur	679.03	Allahabad	1097.40
Mirzapur	491.14	Jaunpur	694.37	Varanasi	1171.10
-	-	Ghazipur	704.19	Azamgarh	1259.50
-	-	Allahabad	754.56	Mirzapur	1336.40
-	-	Varanasi	774.47	Mau	1827.70
-	-	Sonbhadra	921.56	Sonbhadra	1879.20

In all three years (1981, 1991 and 1996), the study region is divided into three categories of development – high, medium and low (Figures 4.1, 4.2 and 4.3 and table 4.10a).

Table 4.10a: Levels of Overall Development

Levels of Development	Composite Index Range	No. of Districts	Name of the districts
1981			
High	> 375	4	Varanasi, Sultanpur, Allahabad Mirzapur (Including Sonbhadra)
Medium	350-375	5	Pratapgarh, Ballia, Jaunpur, Ghazipur, Azamgarh (Including Mau)
Low	< 350	6	Gorakhpur (Including Maharajganj), Basti (Including Siddharth Nagar), Bahraich, Gonda, Deoria, Faizabad.
1991			
High	> 675	6	Sultanpur, Jaunpur, Ghazipur, Allahabad, Varanasi, Sonbhadra
Medium	550-675	6	Azamgarh, Mau, Faizabad, Ballia, Pratapgarh, Mirzapur
Low	< 550	7	Maharajganj, Bahraich, Gonda, Siddharth Nagar, Deoria, Gorakhpur, Basti
1996			
High	> 900	7	Gorakhpur, Allahabad, Mau, Varanasi, Azamgarh, Mirzapur, Sonbhadra

Medium	600-900	7	Faizabad, Pratapgarh, Ballia, Deoria, Jaunpur, Ghazipur, Sultanpur
Low	< 600	5	Bahraich, Siddharth Nagar, Gonda, Basti, Maharajganj

I- Levels of Overall Development in 1981:

In 1981, it has been observed (Fig. 4.1) that the levels of development was high in south and decreased towards north. The districts that fall under the category of high level development form a significant region in south and south-west part of the region. These districts are Varanasi, Sultanpur, Allahabad and Mirzapur (including Sonbhadra). Here, the high level of development is due to the high level industrial and infrastructural facilities. In these district, we find a large number small scale and large scale industries. Similarly in Varanasi district there is high level agricultural development which also corresponds to the high level socio-economic development. Besides these, Allahabad and Varanasi are religious centres and encourage the tourism development, so it also helps in the development of these districts.

The medium level of development are found in central part of the region which includes five districts. These districts are Pratapgarh, Ballia, Ghazipur, Jaunpur and Azamgarh (including Mau). Here medium level development has

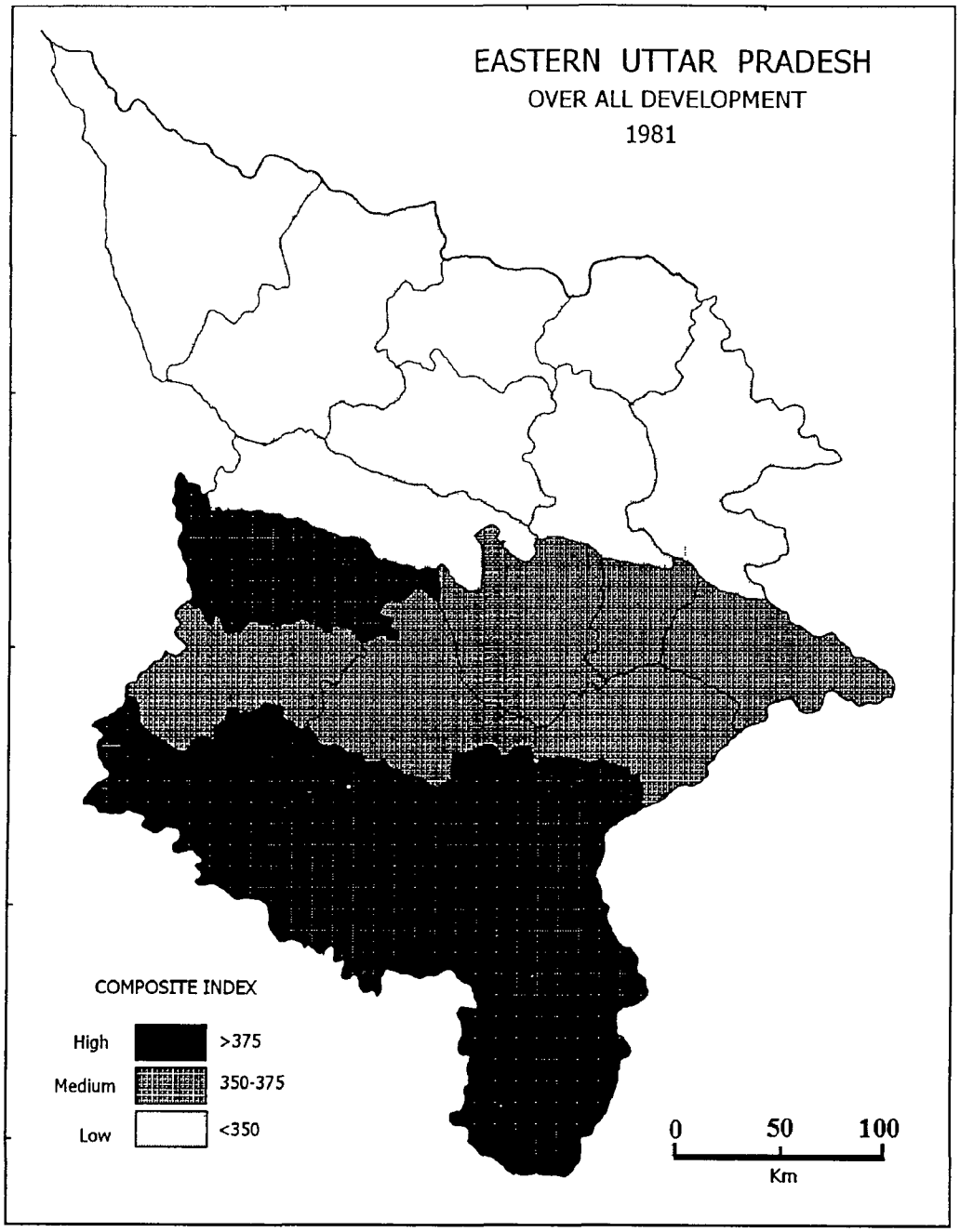
EASTERN UTTAR PRADESH
OVER ALL DEVELOPMENT
1981
COMPOSITE INDEX
High
>375
Medium
350-375
Low
<350
0
50
100
Km

Fig. 4.1

experienced because of medium level development in agriculture, industries, education, transport etc. These districts do not have well developed agriculture and they do not have any industrial base.

In this period the low level development is found in the northern region. Whole of northern part of Eastern Uttar Pradesh experienced low level development in 1981. This part includes six districts namely Bahraich, Gonda, Faizabad, Basti (including Siddarth Nagar), Gorakhpur (including Maharajganj) and Deoria. In these districts, the low level of development is due to the poor infrastructural facilities and low level of agricultural development. In general there is no any advancement in the field of industries. Some agricultural development is found in the districts of Gorakhpur, Basti and Faizabad but due to low level development in other sectors these districts came in the category of low level of development.

II- Levels of Overall Development in 1991:

In 1991, the regional variation in the levels of development was almost in confirmity with that of 1981, (Fig. 4.2). The creation of some new districts affected the levels of development as few districts were bifurcated resulting into the

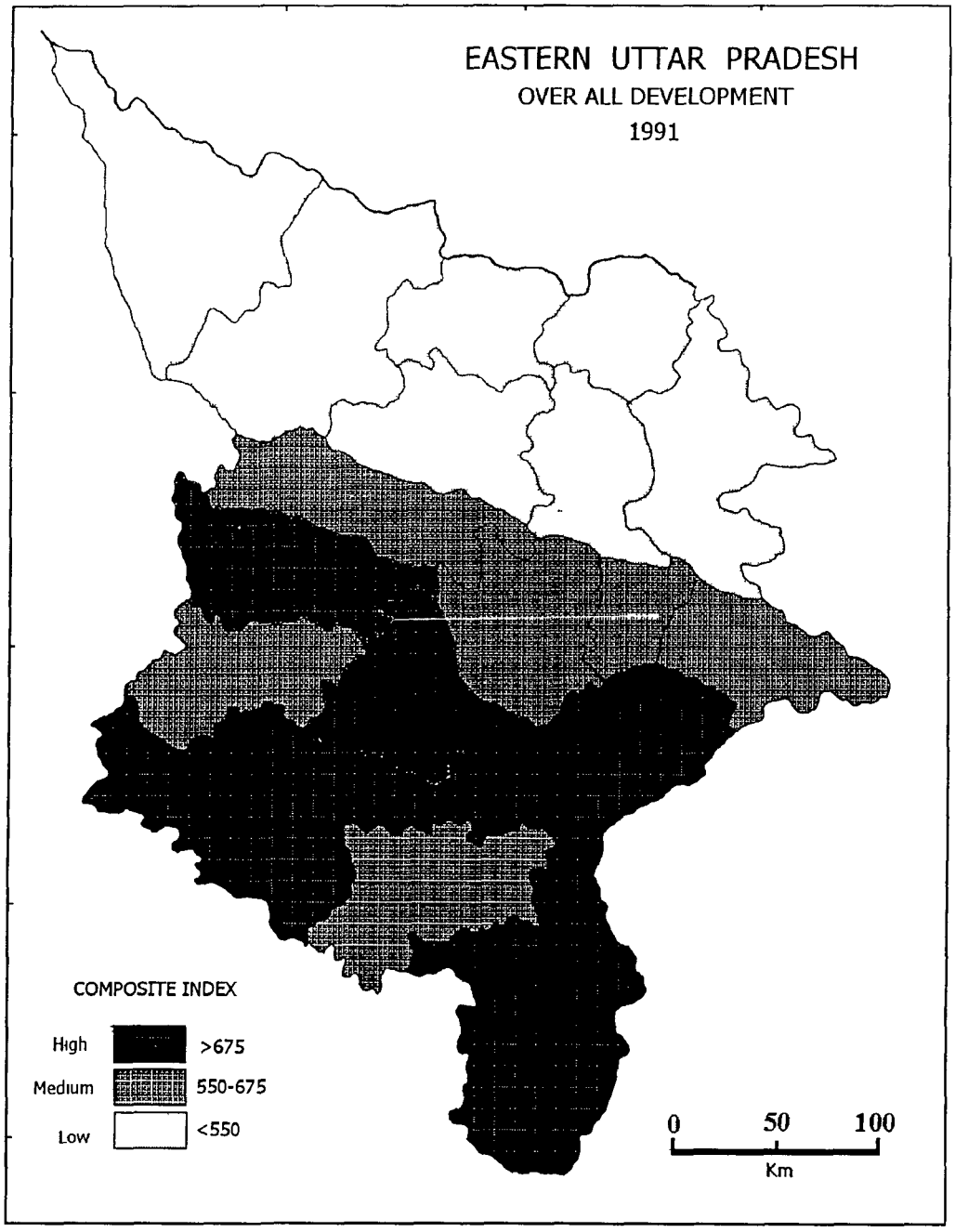
EASTERN UTTAR PRADESH
OVER ALL DEVELOPMENT
1991
COMPOSITE INDEX
High
>675
Medium
550-675
Low
<550
0
50
100
Km

Fig. 4.2

uneven distribution of resources in-terms of agriculture, industry and human. In 1981, there were four districts under the category of high level development but in 1991 number of these districts rose to six. The two new districts are Ghazipur and Jaunpur. But at the same time, Mirzapur which was one district with Sonbhadra in 1981 moved to category of medium level because of the creation of Sonbhadra district and uneven distribution of physical and human resources in these two districts. However in all these districts, the high level development is related with the significant contribution of industrial, power, education and various other socio-economic and infra-structural facilities. Ghazipur and Jaunpur districts attained the high level development because of agricultural development in Jaunpur and agricultural and to some extent small scale industrial development in Ghazipur.

As far as the medium level development is concerned, there are six districts. These districts are Azamgarh, Mau, Ballia, Pratapgarh, Faizabad and Mirzapur. Mirzapur was in the category of high level development in 1981, but due to creation of Sonbhadra from Mirzapur its resources unevenly distributed and it slipped to medium level of development. Similarly, Faizabad which was in the low level development category in 1981 moved to medium level category because of

agricultural development. However, in all these districts the medium level development is related with some development in the field of agricultural and infra-structural facilities.

Similarly in 1991, the low level development districts are those which we find in 1981 except Faizabad which rose medium level of development. The main causes in these districts for the low level development are the lack of agricultural and some other infra-structural facilities. In general here we do not find any important development in the field of industries.

III- Level of Overall Development in 1996:

In 1996, it has been observed that most of districts maintained their categories according to 1981 and 1991, (Fig. 4.3), but in some districts we find changes from low to medium and high and from medium to high and from high to medium. The high level of development is found in Allahabad, Varanasi and Sonbhadra in all the three periods, while Mirzapur which was in the high level category in 1981, moved to medium level in 1991 due to creation of Sonbhadra district, again reached to the high level development in 1996. Sultanpur is the only district which was under high category in 1981 and 1991 but in 1996 it slipped to medium level. The

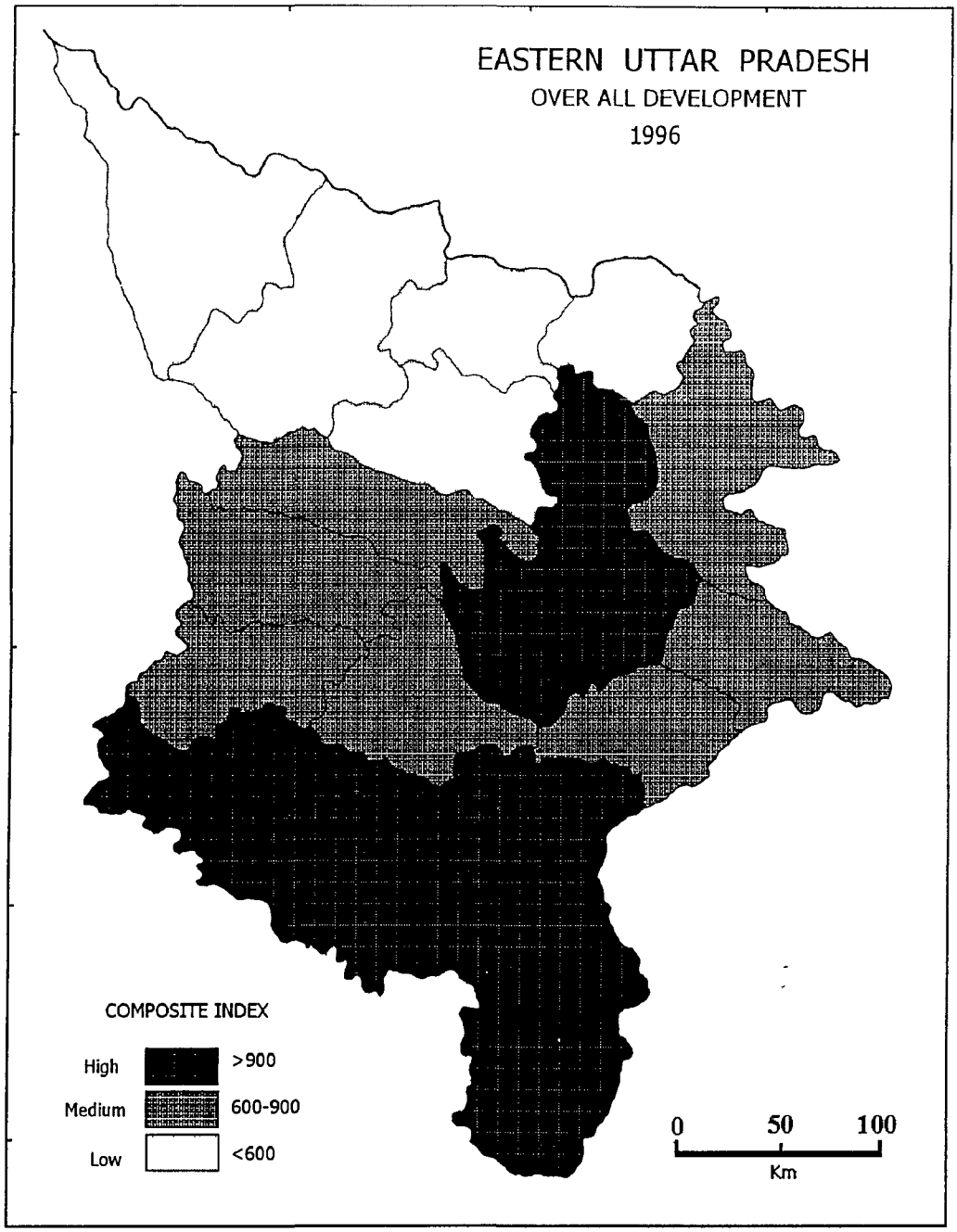
EASTERN UTTAR PRADESH
OVER ALL DEVELOPMENT
1996
COMPOSITE INDEX
High
>900
Medium
600-900
Low
<600
0
50
100
Km

Fig. 4.3

main causes of this were the low development in power, health, co-operative societies and education sectors in 1996. The other districts which also attained the high level development in 1996 are Gorakhpur, Azamgarh and Mau. Gorakhpur was in low level of development in 1981 and 1991, while Azamgarh and Mau were in the medium levels of development in 1981 and 1991. In 1996, they reached the high level development category because of high level development in power, transport and industries sectors during this period.

As far as the medium level development is concerned, there were five districts in 1981, six districts in 1991 and seven districts in 1996. Two districts namely Pratapgarh and Ballia remained in medium level development category in all three periods due to constant slow growth in all the sectors. While Deoria which was in low level development category in 1981 and 1991 moved to medium level development category in 1996, due to rapid growth in industries banking, transport and agricultural sectors. Similarly, Faizabad which was in low level category in 1981 moved to medium level category in 1991 and maintained the position in 1996 also due to good progress in education, communication, banking, transport, power and health sectors . Sultanpur is the other district in this category

which was under high level category in 1981 and 1991 slipped to medium level in 1996, because of slow and stagnant growth in banking, co-operative, health, education, transport and agricultural sectors. The remaining two districts of this category are Jaunpur and Ghazipur. They were in medium level category in 1981 and moved to high level category in 1991 but went down to medium level category again in 1996. This is due to the less development in agriculture, education and health sectors.

The districts in the low level development category decreased from eight in 1981 to seven in 1991 and to six in 1996. Five districts namely Bahraich, Gonda, Basti, Siddarth Nagar and Maharajganj remained in this category in all three years. In general, the low level development category districts form together a region in the northern part of the Eastern Uttar Pradesh. Here the low level development is attributed to various factors such as less development of agricultural, economic and social facilities and amenities. In these districts, we find the development in industries but in other sectors the development is negative or low.

Chapter - 5

FOOD-SECURITY IN EASTERN UTTAR PRADESH

5.1 CONCEPT OF FOOD-SECURITY:

The terms "Food-Security" has came into use during seventies. The world food conference organized by FAO (Food and Agricultural Organization) in 1974, drew the attention of the world community for the first time, to the urgent need of devising ways and means for assuring food-security to the hungry millions of the world. It was recognised that assurance of the world food-security is the common responsibility of the international community. The conference gave the call that no child, woman and man should go to bed without food and no human being's physical and mental capabilities should be stunted by malnutrition.

The food security is defined as a situation where every one on the globe has access, at all times, to the food needed for an active and healthy life. At the house hold level food-security implies having physical and economic access to foods that are adequate that are interms of quantity, quality and safety (Chaturvedi, 1977).

The objective and concept of food security is not restricted to the boundaries of a country alone. It is a global concept and the problem should be treated at the international level because no country of the world can become self-

sufficient in all the basic and non-basic food items. Therefore different ways and means should be adopted to fulfill the objects of the food-security at a global level and the surplus of one region would go a long way in meeting the deficit of others. (Mohammad, A. 1995).

According to Acharya (1983), the food-security is a global concept. Hunger and privation in any part of the world are totally incompatible with the food security concept of the modern world. No region of the world is totally free from scarcities and failure of crops, but no the world wide basis the surplus of one region would go along way in meeting the deficit of others. In chronic deficit countries, however, domestic production may not be adequate to sustain the necessary reserves and in their care the stock could be built through import alone. Such food deficit countries are generally short of foreign exchange to finance the import bill and they will need the assistance of the surplus countries as also of the international, financial institutions are building up their reserves and the infra-structure needed for it. In this sense the concept of food security is global.

Food and Agricultural Organization's (FAO) policy on food security is to encourage the production of adequate food

supplies, to minimize stability in the flow, and to ensure access on the part of those who need them. FAO's Global Information and Early Warning System (GIEWS), which became operational in 1975, monitors the crops and food out look at global and national level in order to detect emerging food supply difficulties and disasters and to ensure rapid intervention in countries experiencing food supply shortages. (The Europa-Year book, 1998).

The World Food Program (WFP) of the Food and Organization of the United Nations, became operational in 1963. It provides relief assistance to victims of natural and man-made disasters and supplies food aid to people in developing countries with the aim of stimulating self-reliant communities. It is the second largest source of assistance in the United Nations, after the World Bank Group, interms of actual transfers of resources and the largest source of grant aid in the United Nation System. WFP handles more than one quarter of the world food aid. (The Europa year book 1998).

According to the report of the International Food Policy Research Institution Washington (1992), food security is basically defined as access by people, at all the time to the food needed for a healthy life. The food security concept, thus,

addresses people risk of not having access to the required food (i.e. food-insecurity). These can broadly encompass the major demands of crop production and productivity, improvement, efficient public distribution systems, employment generation for poverty alleviation, and last but not the least household food security ensuring enough food to meet adequate dietary intake of all its members.

The latest estimates (FAO, 2000) have indicated that roughly about 826 million people suffer from hunger; of them 792 million people live in the developing world and remaining 34 million people in the developed world. The report, in analyzing region wise depth of hunger regime, has critically observed that "to develop lasting solution to end hunger, it is important to know not only how many people are hungry but how hungry they are". The daily diets of the 826 million chronically hungry people in the world lack an average intake shortage of 100-400 kilocalories, diminishing their ability to lead an active life. The greater the depth of this hunger, the greater is the vulnerability to the nutrition-related healthy risk". However expressing optimism, FAO's projection to AD 2015, suggests that "due to progressively declining population growth and increase in productivity and income level, more people will escape the prison of hunger". The food-security,

thus, in its true sense of the word, as derived from the latin word secure means free from care and anxiety and hence implies not only access to but right to food.

Food-security means not only availability of food for direct consumption which indeed is the very heart of it but has other implication as well. The fact is that the world now produces enough food to feed every one but it does not solve the problems. It is a question of not only production but attacking the under lying factors that cause hunger. The issue is further compounded by regional disparities and most importantly, individual family or intra house holds food situation. Even within house hold, women face the burnt of chronic malnutrition as they are affected by age old gender discrimination. (Ghose, 2000).

According to 'Archarya' (1983), food security would have different connotation-though not different meanings in times of plenty and in conditions of shortages and scarcities. The fundamental features of the concept briefly out lined here would hold good at all times, but the emphasis, the priorities and the approach would be different. In times of plenty, nutrition, balance diet, setting apart a reserve as an insurance against probable lean year and planning for future would be

the problems that would receive attention. But in the times of scarcity, the situation is one of a grave emergency, comparable to war, when every thing else is related to the background and the problem of feeding the people receives the first and foremost attention. The only priority is that of mustering food grain stocks, specially cereals and reaching them the places where they are needed. The main emphasis is on saving human life and therefore, the concept of food security really boils down to a detailed and continuous exercise, at innumerable level in procuring stocks and moving them to the needy areas. The strains of times require an elaborate exercise of procurement and distribution in minute and the implementation involves dovetailing at the employment programmes with the food supply arrangements. Every consumable food stuff is procured and supplied under the relief programmes. Sometimes quantitative restrictions have to be enforced in order to equitable ration out the available supplies and there by prevent waste.

The central concept of 'Food-security' is the management of food economy in a manner that society does not have to depend an external assistance to meet the normal cyclical shortages that occurs in the agricultural economy. In situations of exceptional misfortune or when the calamity

persists for more than one year it would be obvious that resources would be too slender to combat the misfortune and ultimately assistance from friendly countries would be essential. This mutual give and take is obligatory if the lessons of the human civilization are not to be ignored. Nevertheless, it is equally clear that from outside countries and participation in collective food-security would be possible only when the philosophy of food security is adopted by every country. The concept of food security therefore is one of universal validity, to be adopted and practised by all countries and to reinforced by mutual interaction whether times of plenty or in time of shortage.

According to Indian Development Report 2002, the concept of food-security has undergone a considerable modification in the recent years. Food availability and stability were considered good measures of food security till the seventies and the achievement of self-sufficiency was given high priority in the food policies of the developing countries. However, though, some policies were successful in achieving self-sufficiency by increasing their food production and also improved their capacity to cope with year to year fluctuation in production, they could not solved the problem of chronic house-hold food insecurity.

This necessitated a change in approach and due to this food energy intake of vulnerable groups is now given prominence in assessing food security. It has become common practice to estimate the number of food-insecure house hold by comprising their caloric intake with the required norms. However the widely accepted norms of the level of caloric intake required for over coming under nutrition have been questioned. Nutrition argue that energy intake is a poor measure of nutritional status, which depends on not only the nutrient intake but also non-nutrient food attributes, privately and publicly provided inputs and health status.

In policy design a distinction is made between the hard core of chronically food insecure house holds and the transitory, which are temporarily subjected to hunger during the off-season, drought and inflationary year etc. Transitory food insecurity is associated with risks related to either access or availability of food policies such as those relating to price stabilization credit, crop insurance and temporary employment creation initiated to stabilize the consumption of vulnerable groups. In contrast the problem of chronic food insecurity is associated primarily with poverty and arises due to continuously inadequate diet. The strategy to overcome this problem includes intervention to rise purchasing power of the

poor, through the endowments of land and non-land assets and generation of employment opportunities as well as long term growth mediated interventions to improve food availability and to rise income with the agricultural production programmes, infra structure and human resource development programmes etc. (Radha Krishna, 2002).

The vision of free from hunger is easy to think but too difficult to implement. There are multifarious factor involves in the entire chain from food production and sustainability to food security, storage and its distribution at households levels, including food availability, purchasing power etc. Food-security at house-holds levels can be achieved only when all people at all times have access to sufficient food for health and production. Thus the issues can be divided into three main components viz food production and availability, food access at house hold level and food utilization by the poorest people. (Mathur 2000).

Food insecurity is a complex issue having several dimensions such as poverty, employment, famine, gender discrimination, equity, starvation, food and nutritional practices, human growth, political elements, natural calamities and so on. Poverty has been recognized globally

both as a cause and consequence of food security. (Ghosh, 2000).

There is considerable imbalance between the demand and supply of food in developing countries and the call for food security aims at removing this gap through both the short term and the long term measures. Nearly about 80 percent of world population, live in the developing countries and has access only 20 percent at world resources. While the developed world with only 20 percent of the world population has access to 80 percent of the world resources and produce over half of world production. This imbalance between food and population in the world concepts the developing countries to get access to the surplus of the developed countries through commercial purchases, bilateral arrangement and through multilateral aid. The situation would become more grim incoming year in view of the fact that there is a recent trend of decrease in cereal production in the developing countries during 1970-85. The annual growth rate of food production was 3.8 percent. This has decreased to below 3 percent in the subsequent years. This means increase in food import to avert famines many food deficit countries are not in a position to import food grain because of their inability to pay for it. (Bannerjee 1977).

It is estimated that about 340 million people in the world are chronically under nourished and unable to grow or obtain enough food to lead healthy and active lives. This estimate also includes more than 200 million children under the age of 5 years who go to bed without food every night lacking the essential calories and protein which are necessary for their growing bodies. Hunger not only cut short the lives of individuals but it also damages the peace and prosperity of the nation. As human developed itself gets impaired the country faces a staggering loss interms of productivity diseases and disability. (Ghosh, 2000). An essential element in the food security of the developing countries is to ensure the social security, on one hand, where in the minimum nutritional need of the people may be satisfied and on the other, the farmer may get a suitable return for this labour. Adequate food may be produced in the country but unless these people have the purchasing power they can not have access to the food reserves. (Shafi, M. 1992).

For the developing countries food availability on a national level is not sufficient as seem in case of India, where food stocks to the tune of 59.1 million tonnes on 30 November, 2001 are available in the government food stock. But there are

still a large number of persons who don't have an access for the minimum food requirement.

Despite a large stock of food grains and a significant reduction the incidence of poverty (from 55% in 1973-74 to 36% in 1999-2000), the chronic food insecurity is found in a large proportion of India's population :

a) because absolute number of poor is still high more than 200 million person,

b) has no access to safe drinking water, and

c) has been exposed to conditions of adverse hygienic environment (Indian Development Report, 2000).

Since over 70% of Indian population are living in rural areas and shares majority of the poor people, thus for India, food security involves an overall rural development, agricultural development and corresponding poor man's development where by he is able to either produce sufficient food in the decentralized form or else is able to earn for buying sufficient food. Equitable availability of food and equitable accessibility of food require decentralized food production, decentralized storage and decentralized marketing (Chaturvedi, 1977),

In consultation with the Ministry of Food, it was decided to organize preparatory meeting at the national level in India. The unique aspect of ensuring food security for the poor in India was identified as the root through the Panchayati Raj Institution which are elected bodies and are to ensure local self governance at the district, block and village level. The National conference on Panchayati Raj has been organized to focus on the need for ensuring food security for the poor in the rural areas. The objectives of the conference are to develop strategy for micro-level food security and nutrition for the poor through the Panchayati Raj System and to identify major areas crucial and requiring pioneering efforts to develop the same. (Chaturvedi, 1977).

5.2 DETERMINANTS OF FOOD-SECURITY:

According to FAO "the objective of world food security, (as formulated in the international undertaking on world food security) is to ensure the availability at the time of adequate world supplies of basic food-stuffs primarily cereals, so as to avoid acute food shortage in the event of wide spread crop failures or natural disasters, sustain a steady expansion of production and consumptions and reduce fluctuation in production and prices (FAO, 1983). According to Prof. Shafi

"Food-security/social security", an integral feature of food system in a country, cannot be maintained without price stability. This requires establishment of adequate buffer stock in order to minimize the impact of weather fluctuation on the availability of food-grain and their prices (Shafi, M. 1987).

Availability of the food grain will have little relevance if people do not possess purchasing power to buy them for their consumption. This compulsion costs a responsibility of the government to devise ways and means by which in the first instance, food is available within the country or region and in the second, people have the means to buy it. (Archarya, 1983). It would help the poor to get access to food in normal period by rising their purchasing power through the endowment of land and non-land assets and better access to credit facilities, increasing employment through the normal growth process and income transfers through the Public Distribution System (PDS) and more directly through employment programmes. (Radha Krishna, 2000).

Nutrition is an essential aspect because food as such is not enough food of quality and cannot provide the necessary nutrition, which is really required for keeping the body in proper health. In this aspect all food items including milk

fruits, vegetables, meat and processed and fortified foods etc. are includes. Productivity is directly related to the health of people and this gives to nutrition the paramount place in the philosophy of food-security.

In a region food in surplus may be available through stocking but the distribution system may affect the basic concept of food security system. Availability as stocks will be of little use, if they cannot be supplied to the people who need them and at the right time. Indeed there have been instances when absence of a proper distribution system (which include stock building too) let do large scale famine despite availability of stocks. It would be no exaggeration to say that the distribution system takes care of a very large part of the food security concept, while the distribution system depends upon the buffer stock or reserves of food. It is art of managing scarcities and shortages to control food security system of a region (Archaryas 1983).

FAO recognized the need of the increase their food production and build up their adequate national stocks and reserves primarily cereals at least for minimum 'safe' level so as to avoid acute food shortages in the event of wide spread crop failures as natural disasters, sustain a steady expansion

of production and consumption and reduce fluctuation in production and price (FAO 1983). So, it is important to reveals that the shortage, stocks and distribution system are the most important indicators of food-security.

Food security, in the final analysis depends on a stable and secure production base and production of food grains is the most important indicator of food security. Because all the others i.e. availability distribution system and buffer stock depends upon the stable and secure food. Insufficient domestic production is a long run food security problem faced by many developing countries. FAO recognizes the needs of the developing countries for assistance to increase their food production and build up their national stocks, promoting the production of food crops for achieving food security in the wider sense through such long term measures as sharing the benefits of new seeds, extension system applied research, manufacture of fertilizer and pesticides, and co-operation in import of agricultural inputs. (FAO, 1983).

In this wider content, it would include all avenues allied to agriculture viz, horticulture, animal husbandry, dairy, poultry, fishery etc. Nature is hurtful and has given enough resources to sustain food production necessary for a

community. Land and water, appropriate cropping system, scientific package of inputs and practices all these are at command of humanity to assure of food security.

The overall food security at the national level have three basis issues : (1) availability (2) stability (3) accessibility. In essence the issues of food security can be broken down to production of food grains, price policy, public procurement of food grains, buffer stock, public distribution and international trade one side and population policy and planning all over and all socio-economic development policy, specially that related to income and employment generation, education, health, safe drinking water, housing and sanitation on the others.

Availability:

Availability of enough food for all can be made available through increasing agricultural production within the region and also fastering trade with the other nations and regions to import food.

Stability:

If necessary, stability calls for under taking appropriate pre-emptive steps, through which harmful, suspended and inter annual instability of supplies of food can be reduced. Built instability needs to be stalled in the production prices,

marketing and distribution system natural and man made disasters can after be anticipated and ever prevent.

Accessibility:

To be adequate and safe food by all may be made possible by careful taking into consideration the important factors, followed by government intervention and policies. The vast majority of malnourished do not have at the first instance adequate access to natural resources, job, income or social security. (Ghosh, 2000).

Self sufficiency / availability of food best depends upon the domestic production and import if necessary while the basic objective to achieve the level of food self sufficiency through domestic production and minimize the level of dependency on imported food grain is to attain self-sufficiency in production particularly in food production. A study of all crops will therefore be helpful in finding out the desired level of self-sufficiency in both raw materials need for the industries and domestic food production.

Over the last five decades policies and programmes have been designed to ensure availability of food grains to all sections of the society particularly the weaker section. The basic food security system currently consists of policies to

promote domestic food grains output, minimum support prices, procurement and storage, public distribution maintenance of buffer stock and open market sales.

The ninth plan laid a considerable emphasis on developing strategies that help to integrate the food production and Public Distribution System (PDS) with the employment empowerment and poverty alleviation programmes. Self sufficiency in production of food grain has continued to be the first step for attainment of food security for a country like India with more than a billion mouths to feed. Thus any pragmatic approach to the national food security has to perform largely on domestic production of food needed for consumption as well as for building up of a buffer stock of over 20 million tonnes to clearly attain the state of self-sufficiency.

5.3 AREA, PRODUCTION AND YIELD OF FOODGRAINS IN EASTERN UTTAR PRADESH:

No doubt the production of food grain in Eastern Uttar Pradesh has made a steady progress from 1981 but this progress has not been uniform in all crops and in all the districts of the study region. Therefore, here an attempt has been made to analyse the growth rates of area, production and

productivity of food grain crops during the period 1981 to 1998.

Cereals:

Cereals are the dominant crops in Eastern Uttar Pradesh. In 1981 total area under cereal crops was about 6,150,897 hectares and it rose to 6,830,154 hectares in 1998, with a total increase of 11.05 percent. The total production of cereals in Eastern Uttar Pradesh was 4,526,653 metric tonnes in 1981 and it rose to 14,129,999 metric tonnes in 1998 with a total increase of about 212 percent because of improved and higher yield of cereal crops. Similarly, the yield of cereal crops has increased from 7.4 quintals per hectare in 1981 to 20.94 quintals per hectare in 1998 with total increase of 182.86 percent during this period (Table 5.1).

Table 5.1

Growth Rates (in percent) of Area, Production and productivity of cereals in Eastern Uttar Pradesh, during 1981 to 1998

Districts	Area	Production	Yield
Allahabad	13.76	288.07	241.13
Pratapgarh	26.56	221.07	153.76
Varanasi	0.68	289.28	286.67
Mirzapur Sonbhadra	70.01	623.93	325.84

Jaunpur	11.75	141.30	114.60
Ghazipur	19.22	316.60	249.33
Ballia	12.80	184.05	151.78
Gorakhpur Maharajganj	31.18	285.75	194.02
Deoria	-19.23	95.65	142.17
Basti S. Nagar	37.96	130.38	66.92
Azamgarh Mau	-4.29	241.03	256.35
Faizabad	26.65	213.65	147.61
Gonda	-13.60	232.35	284.56
Bahraich	-6.14	167.23	184.50
Sultanpur	15.13	273.71	224.40
Eastern Uttar Pradesh	**11.05**	**212.01**	**182.86**

The district level anaylsis (Table 5.1) shows that in most of the districts the area under cereals have increased. Only four district namely Deoria, Azamgarh, Gonda and Bahraich have negative growth in area under cereals. The main cause is that in these districts area under sugarcane is increasing, because these districts have a number of sugar mills. Thus the farmers of these districts are growing sugarcane more than the cereal crops because of the demand of sugarcane for sugar mills. Similarly in these district except Bahraich area under oilseeds, have also increased. This is also a cause for the

decrease in area under cereals. Gonda and Bahraich also recorded a good increase in area under pulses that is why area under cereals showed a negative growth. In other districts the area under cereal crops showed a positive growth which ranges between 0.68 percent in Varanasi to 70.01 percent in Mirzapur (Fig. 5.1). The districts of Mirzapur, Basti Faizabad, Gorakhpur and Pratapgarh recorded the good growth more than 25 percent in area under cereals crops. The other districts in Eastern Uttar Pradesh also have more than 10 percent positive growth in area except Varanasi, where growth in area under cereal crops was less than one percent. Varanasi did not recorded the high growth in area under cereal because of high increase in area under sugarcane. Similarly, here due to rapid industrialization and urban encroachment a large cultivable area has decreased.

However, if we see the area under different cereals, we find that the increase in area is found only in wheat and rice crops, while the area of other cereals either remained stagnant or presented a negative growth rates. Wheat and rice are more renumerative crops than other cereals because they give higher yields in comparison to other cereals like millets and maize. The high yielding variety programme is a major factor for the diversification in cropping pattern and its introduction

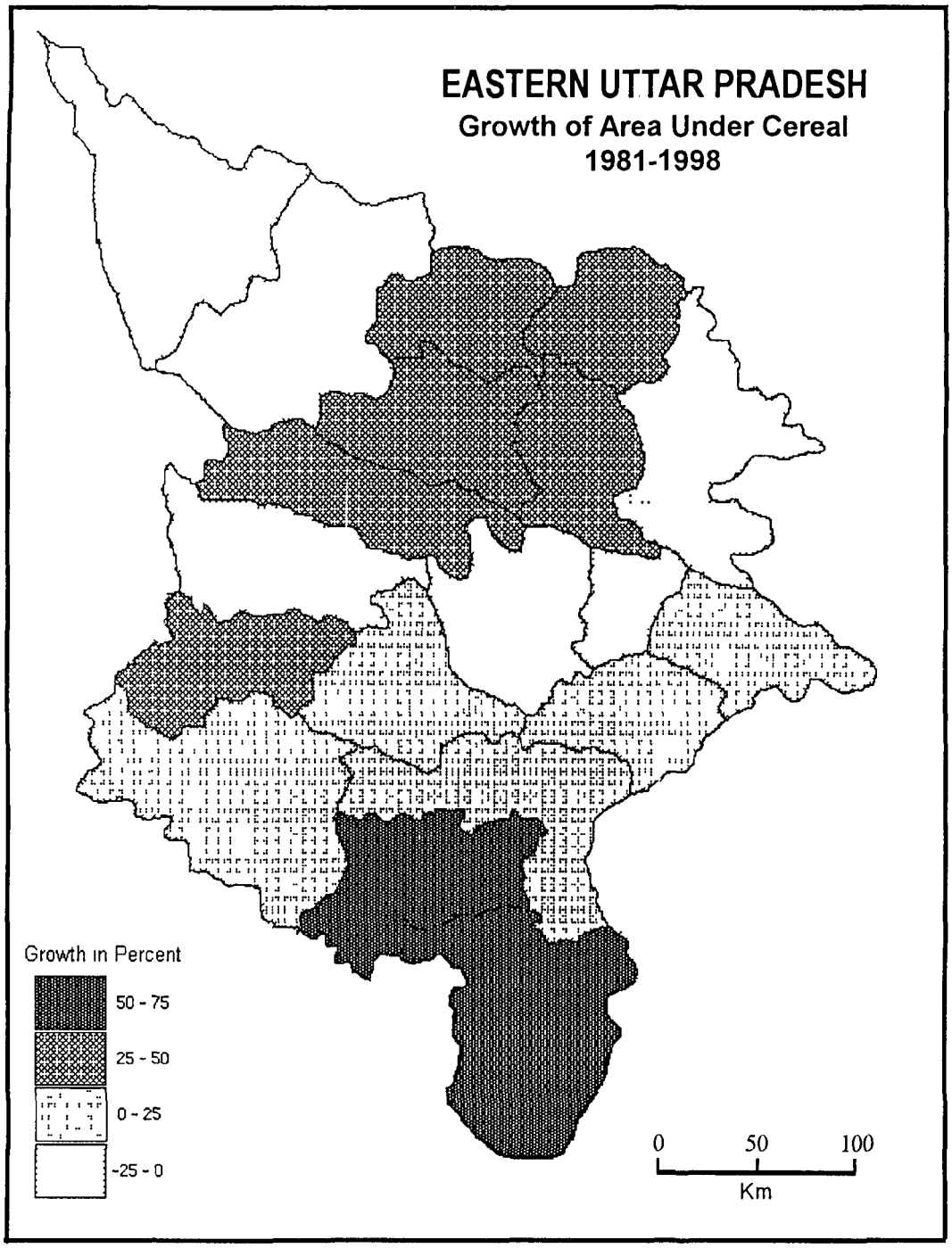
EASTERN UTTAR PRADESH
Growth of Area Under Cereal
1981-1998
Growth in Percent
50 - 75
25 - 50
0 - 25
-25 - 0
0
50
100
Km

Fig. 5.1

in rice and wheat cultivation has proved a big success. The high yield giving nature of seeds also needs sufficient amount of water. Therefore, the increase in area under wheat and rice is largely controlled by the availability of water either by natural resources as rains or by canal and tube-well irrigations and due to high yield giving nature of seeds of wheat and rice all possible area has been brought under wheat and rice cultivation.

As regards production, there was a considerable increase in the production of cereals in all the districts of Eastern Uttar Pradesh. All the districts recorded positive growth rates. But this increase was not uniform in all the districts and it varies from 95.65 percent in Deoria to 623.93 percent in Mirzapur (Table 5.1). This increase in production has been made possible by the joint effects of area and productivity and the interaction between area and productivity. Mirzapur recorded the maximum growth in production and it is due to maximum growth in area (70.01 percent) and maximum growth in yield (325.83 percent). The other districts which also recorded the high growth rates in production are Allahabad, Pratapgarh, Varanasi, Ghazipur, Gorakhpur, Sultanpur, Azamgarh, Faizabad and Gonda. All these districts recorded more than 200 percent increase in production of cereals during the

period of 1981 to 1998. Similarly, the remaining districts also recorded good growth in production. The growth rates in these districts except Deoria (95.65 percent) were more than 100 percent (Fig. 5.2). However, if we see the growth in production of different cereal crops, we find that there is a considerable high growth in the production of wheat and rice while the other cereals have negative growth in production in most of the districts. Since production is closely related to area and as these crops generally have stagnant or negative growth in area, they also have negative growth in production. The increase in production of wheat and rice and decrease in production of other cereal crops is the contribution of new agricultural technology. With the introduction of new agricultural technology characterized by high yielding variety of seeds, irrigation, fertilizers, pesticides and insecticides, most of the area which was under millets, maize and barley, is now devoted to the cultivation of wheat and rice because these crops have better prospects than other cereals and also give higher yields in comparison to the yield of millets, maize and barly.

As far as yield of cereals is concerned the whole study region, recorded positive growth rates (Table 5.1). But this increase was not uniform in all the districts. (Fig. 5.3). The

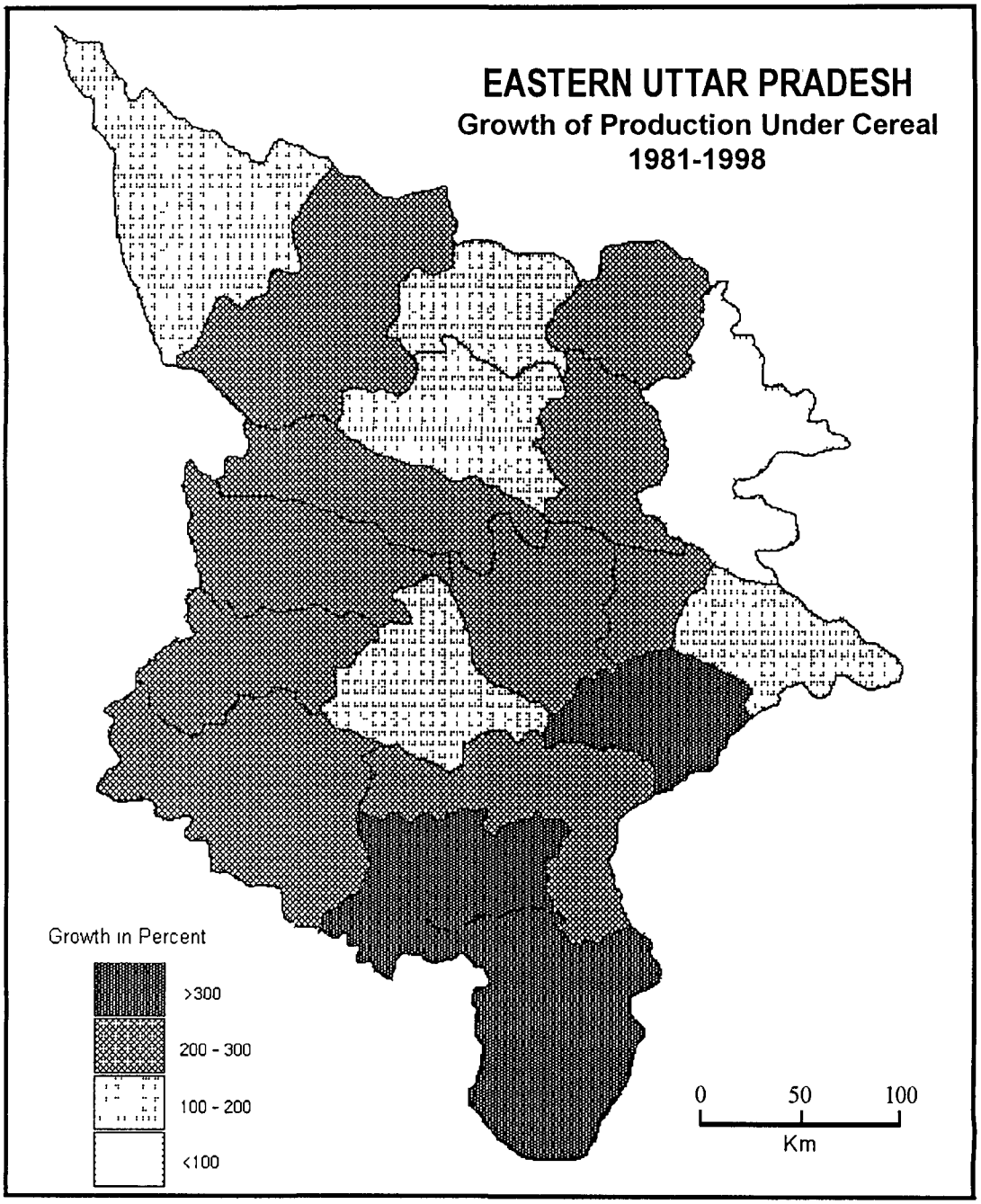
EASTERN UTTAR PRADESH
Growth of Production Under Cereal
1981-1998
Growth in Percent
>300
200 - 300
100 - 200
<100
0
50
100
Km

Fig. 5.2

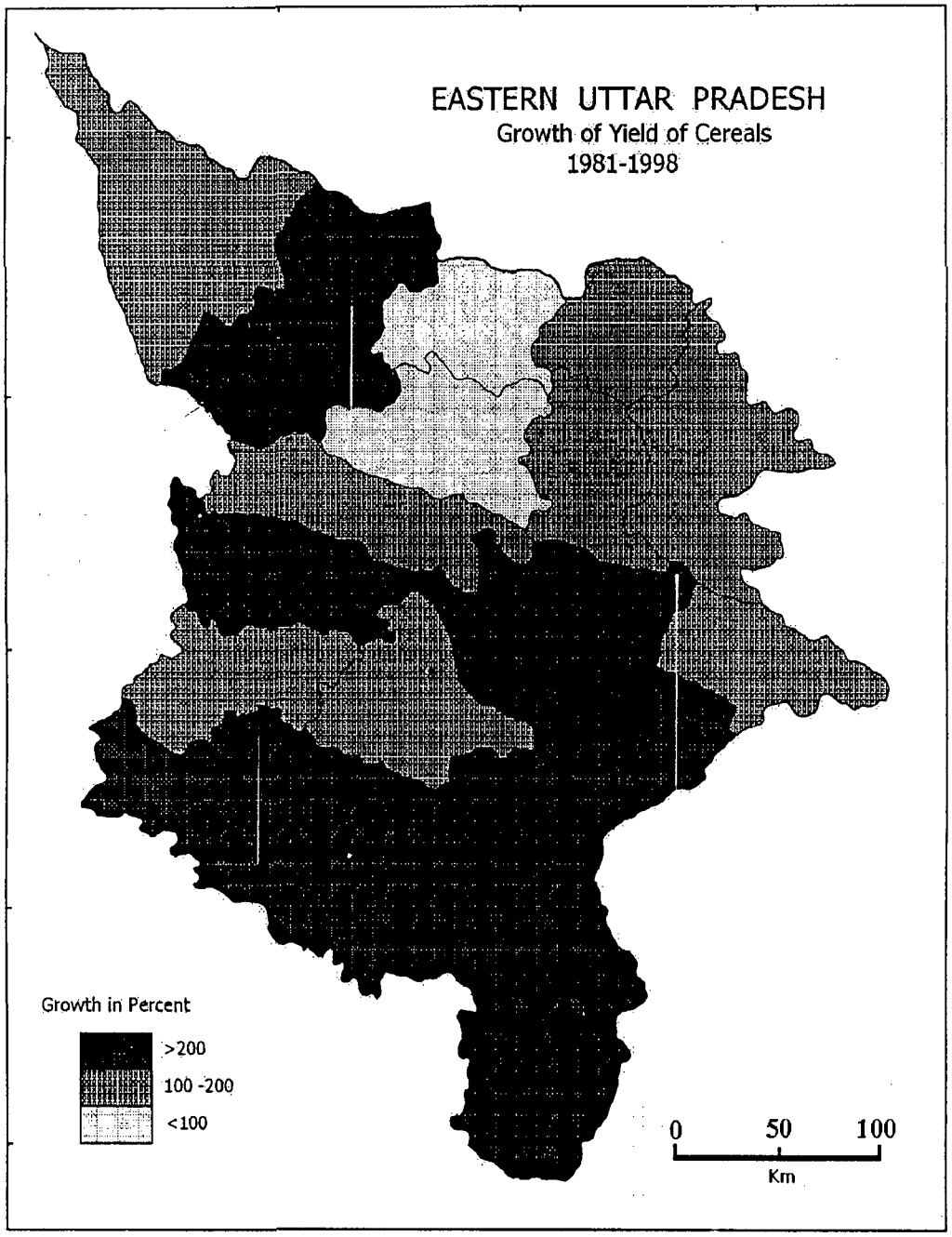
EASTERN UTTAR PRADESH
Growth of Yield of Cereals
1981-1998
Growth in Percent
>200
100 -200
<100
0
50
100
Km

Fig. 5.3

districts of Allahabad, Varanasi, Mirzapur, Ghazipur, Azamgarh, Gonda and Sultanpur recorded more than 200 percent increase in the yield of cereal crops. In other districts also, except Basti (66.92 percent), the yield of cereal crops recorded more than 100 percent increase during study period. As regard, the yield of different cereal crops, there were generally positive growth rates for all crops except millets which recorded negative growth in some districts of Eastern Uttar Pradesh. But it is observed that the yield of millets, barley and maize grew more or less uniformly over the entire period, while the yield of wheat and rice increased at higher rates. The high yield in wheat and rice in these districts are mainly due to availability of irrigation facilities to meet the standard requirement of water for these crops. The variation in the growth rates of yield in different districts is due to less development in irrigation facilities and flood and famine problems in some districts. Therefore, in these districts, the farmers are not using the high yield giving inputs in the large scale.

Pulses:

The area under pulses was 12.63 percent of the total food grain area in 1981 and this area decreased to 10.45

percent in 1998. The growth rates of pulses for area, production and yield covering the period 1981 to 1998 are given in table 5.2.

Table 5.2

Growth Rates (in percent) of Area, Production and productivity of pulses in Eastern Uttar Prades, during 1981 to 1998

Districts	Area	Production	Yield
Allahabad	-26.10	-35.28	-12.39
Pratapgarh	-14.29	-11.70	2.97
Varanasi	-39.33	-24.51	33.43
Mirzapur Sonbhadra	0.24	-4.87	-25.94
Jaunpur	-12.62	-10.95	1.85
Ghazipur	-23.65	-43.53	-26.86
Ballia	-30.81	-49.09	-45.25
Gorakhpur Maharajganj	2.62	44.98	41.28
Deoria	-13.23	24.13	43.07
Basti S. Nagar	13.19	42.98	38.46
Azamgarh Mau	-37.92	-19.13	30.36
Faizabad	-12.45	0.81	15.04
Gonda	16.13	5.72	-8.93
Bahraich	18.58	36.31	15.07
Sultanpur	-2.01	-1.39	0.64
Eastern U.P.	**-10.36**	**-11.90**	**-1.68**

It can be observed from this table that area, production and yield of pulses showed a negative growth in Eastern Uttar Pradesh. The area under pulses showed a negative growth of 10.36 percent while production and yield recorded negative growth 11.90 percent and 1.68 percent, respectively. The district level analysis (Table 5.2) reveals that pulses recorded negative growth rates in area, production and yield in many districts.

As far as area under pulses is concerned, it showed negative growth in ten districts namely Allahabad, Pratapgarh, Varanasi, Jaunpur, Ghazipur, Ballia, Deoria, Azamgarh, Faizabad and Sultanpur (Fig. 5.4). The high positive growth rates are found in Bahraich, Gonda and Basti while Gorakhpur showed a slow growth rate (2.62 percent) and Mirzapur presented almost a stagnant growth rate in area.

As regards production, generally those districts which have negative growth in area also have negative growth in production but there are some exceptions. For example Mirzapur which has very slow positive growth (0.24 percent) in area showed a negative growth in production because of high negative growth in yield of pulses. Similarly, the districts of Deoria and Faizabad, showed a negative growth in area under

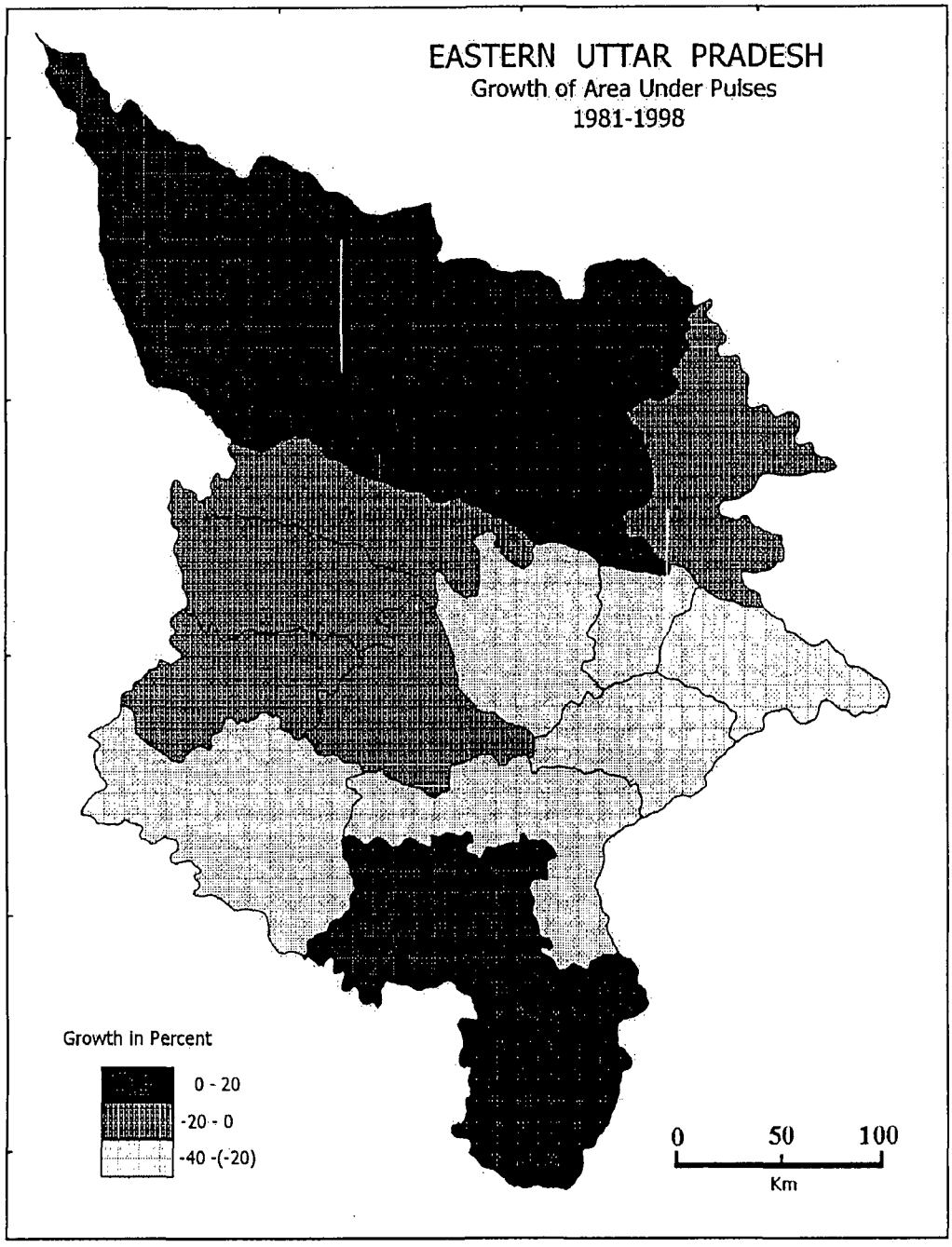
EASTERN UTTAR PRADESH
Growth of Area Under Pulses
1981-1998
Growth in Percent
0 - 20
-20 - 0
-40 -(-20)
0
50
100
Km

Fig. 5.4

pulses but due to high positive growth in yield of pulses, these districts presented positive growth in production. There are total nine districts which recorded the negative growth in production of pulses (Fig. 5.5). Remaining six districts recorded the positive growth. Gorakhpur recorded slow growth rates in area but due high growth rate in yield, it recorded highest growth rate in production. Similarly, the districts of Basti and Bahraich, due to high growth rates in yield also showed high growth rates in production while the district of Gonda, though showed a high positive growth rate in area, due to negative growth in yield showed a slow positive growth in production.

As far as the yield of pulses is concerned, we find some improvement in yield of pulses. Only five districts recorded the negative growth in the yield of pulses (Fig. 5.6). These districts are Allahabad, Mirzapur, Ghazipur, Ballia and Gonda. The other districts recorded the positive growth rates. The districts of Varanasi, Gorakhpur, Deoria, Basti and Azamgarh recorded the high positive growth rates more than 30 percent (Table 5.2). About 15 percent positive growth rates are recorded by Faizabad and Bahraich districts while the districts of Pratapgarh, Jaunpur and Sultanpur presented a very slow positive growth rates in yield of pulses.

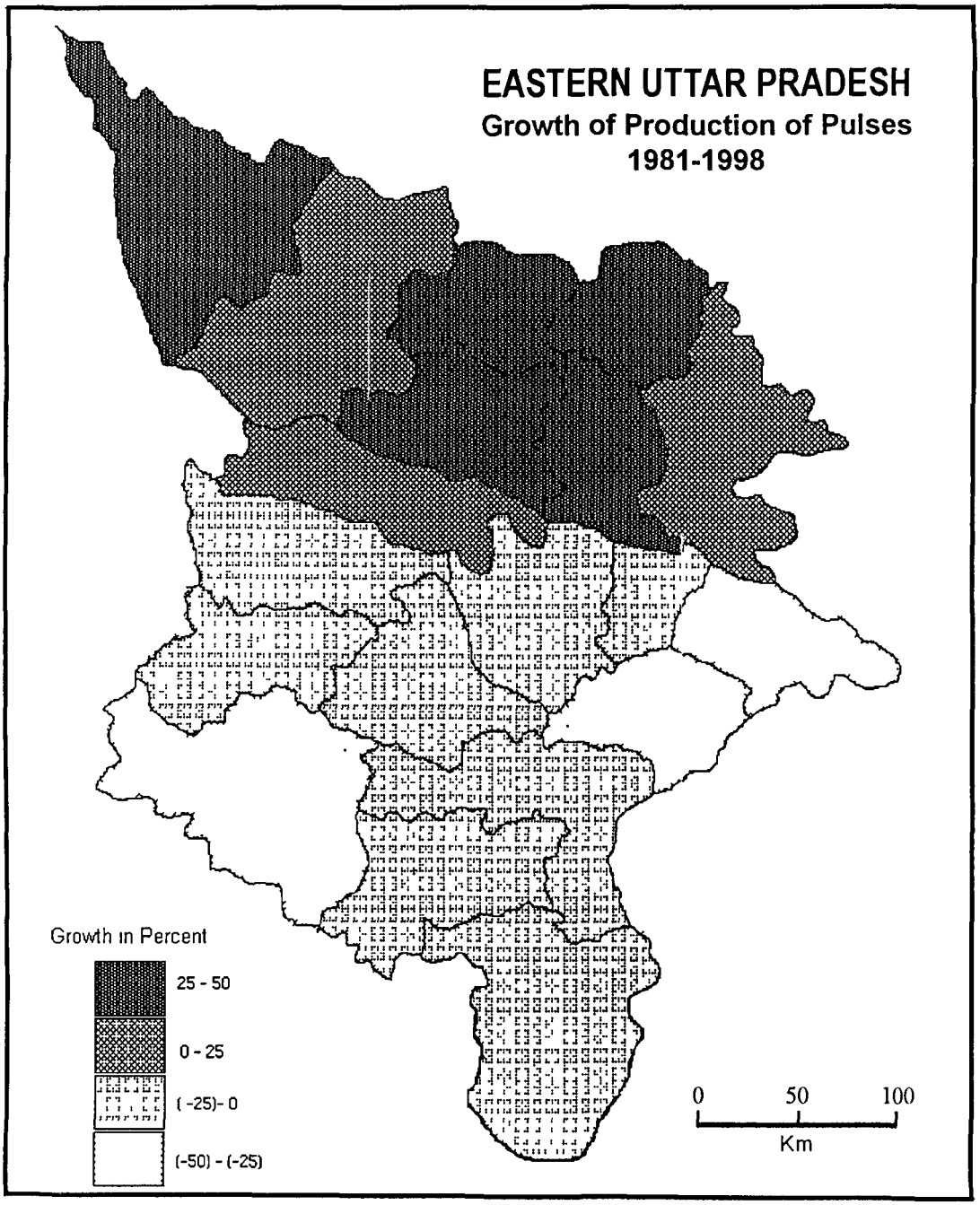
EASTERN UTTAR PRADESH
Growth of Production of Pulses
1981-1998
Growth in Percent
25 - 50
0 - 25
(-25)- 0
(-50) - (-25)
0
50
100
Km

Fig. 5.5

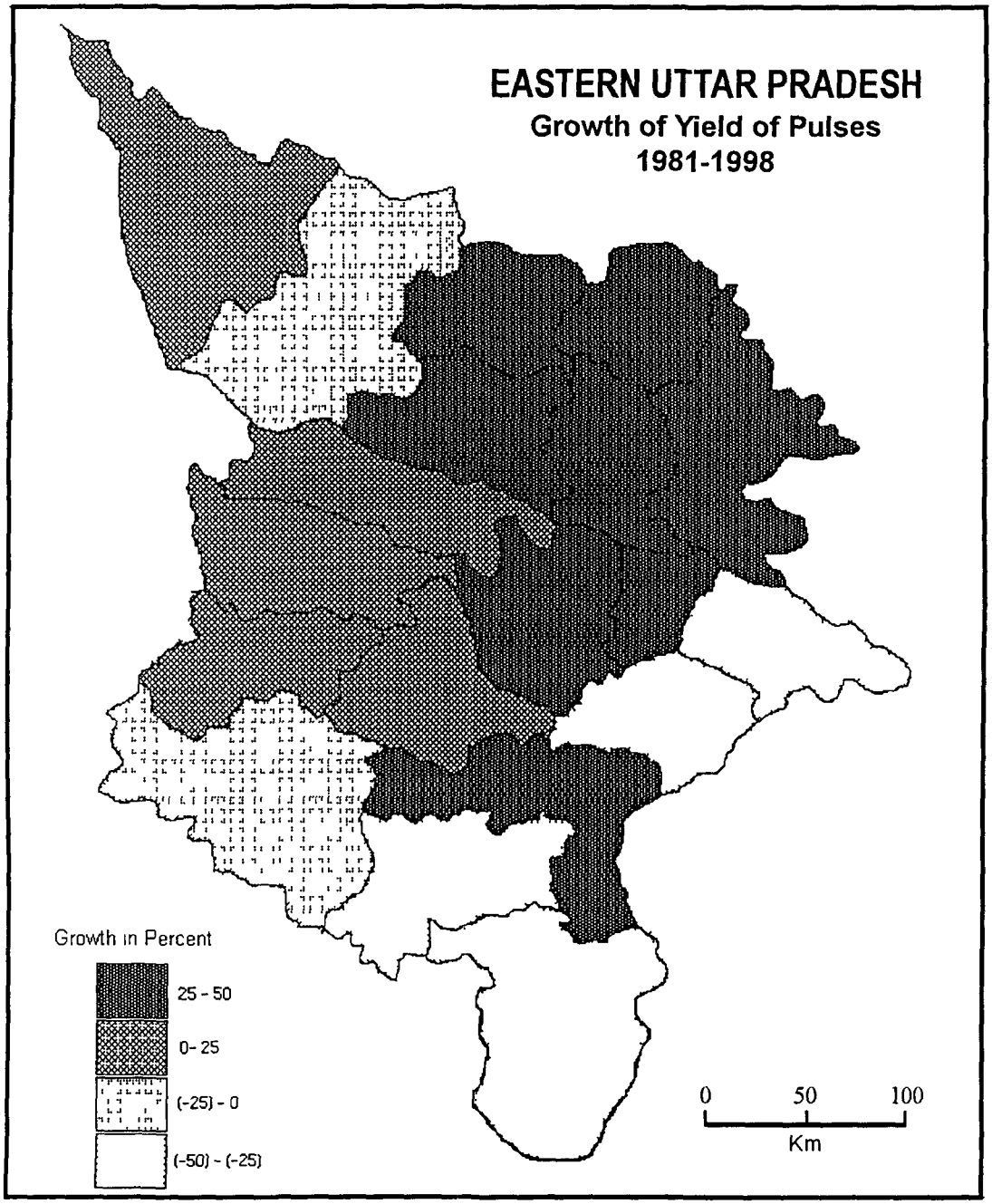
EASTERN UTTAR PRADESH
Growth of Yield of Pulses
1981-1998
Growth in Percent
25 - 50
0- 25
(-25) - 0
(-50) - (-25)
0
50
100
Km

Fig. 5.6

The analysis indicates that the introduction of new agricultural technology has substantially boosted the production of cereals mainly wheat and rice and left pulse production untouched. Generally, the area under pulses not only decreased but yield as well as production also decreased in many districts. The new agricultural technology has raised the yield of wheat and rice so much that farmers prefer to grow these crops instead of pulses in fertile lands with all yield raising inputs and improved cultural practices. The farmers therefore continue to grow pulses on poor marginal lands under rainfed conditions with generally no inputs like fertilizers, pesticides etc. Moreover, the pulses are more susceptible to pests and diseases and adverse weather conditions like snowfalls, haze etc. as compared to cereals and other crops. Therefore, for the farmers it is less risky and more remunerative to grow a cereal than a pulse crop.

5.4 SUPPLY AND DEMAND FOR FOOD GRAINS:

The supply of food in India is very serious problem. It is neither a recent problem nor created by population growth. A historical study of famines goes to prove this. The evidence is available in the economic history of India which records numerous instances of crop failures and lack of proper food

supply. The country has experienced about 30 major famines during the last 300 years.

The frequency and the cyclic order show the peculiar susceptibility of this country to crop failures and recurrent shortage of food supply. Even after the development of the means of irrigation and a network of communication only the character of famine changed. There is permanent food shortage in some pokects of India especially in the regions both high and low productivity. In the high productivity area, it is because of the high density of population and low man-land ratio while in the low productivity regions, it is because of erratic monsoon and lack of irrigation facilities. Similarly in some region, there exist disadvantaged groups in the agricultural sector, known as agricultural labourers, marginal farmers and uneconomic land holders etc. They always suffer from food shortage. Therefore, food scarcity for the nation as a whole as well as among the disadvantaged groups has become a normal feature of national life. It is also found that a normal, overall deficit or a gap between total output and requirements of the population results into a chronic state of under feeding and malnutrition. Apart from this the fluctuation character of the total output accentuates food shortages in the form of short cycles almost every where and in some localities quite

frequently. Again taking a regional view of the food scarcity one finds some pokets of chronic scarcity. These lie in the drought-prone and the frequently flooded areas.

The above mentioned aspect of food problem is a quantitative consideration showing inadequacy of common average diets with reference to physiological adequacy as living near the starvation line. But in qualitative terms the common diets being cereal, they are unbalanced, lacking in the essential requirements of protective foods, vitamins and minerals.

In historical perspective which can be considered as a base for todays development, the magnitude of the problem was first realized after the Bengal Famine (1943) and the extent of the shortage was estimated at about one-third of its population. Specific attention to the problem was paid by Sir John Megaw and Radhakamal Mukherjee. The farmer estimated that in the beginning of the 1930s of the total population 39 percent was adequately nourished, 41 percent poorly nourished and 20 per cent was very badly nourished, and during abnormal periods the situation still worsened. The latter thought that there was a shortage for about one-third of its population, the remaining two-third was fed adequately.

The Advisory Planning Board of Indian Council of Agricultural Research assessed food shortages in India in 1947 with reference to a balanced diet, the extent of shortage in the country in various items of food in terms of daily individual diets. The results obtained show that there was a deficiency of each items of foods in this country on an average per head per day. It was estimated that cereals deficiency was 7.1 percent, pulses 36.7 percent, leafy vegetables 83 percent, ghee and vegetable oil 82 percent, milk and its products 52 percent, meat, egg and fish 90 percent, fruit and nuts 36.7 percent and sugar and gur was deficient by 30 per cent.

During the first five year plan only the temporary aspects of the problem and not the fundamental ones have been recognized. But after a number of five year plans the problems of food has been recognized at national level which is known as "self-sufficiency in food" but we never recognized this problem at the regional level or state level, districts level and village level and house hold level. House hold is a basic unit of food production and consumption and there is a large disparity in operational and size of holding from one house hold to another household.

Now the magnitude of the problem at regional level struck by the famines and large quantity of food import has been modified to a considerable extent, but the actual problem still exist at local level due to the vast disparities in the size of land holding. Similarly it has been found that this problem is being more serious from our expanding population and relatively slow rate of growth of food production in many parts of the region. This situation has led an increasing number of people to recognize that one of the pressing problems facing a region or state today is that of maintaining a balance between the population and its food supply. Keeping in view this problem, the Eastern Uttar Pradesh has been taken as study region to assess the level of population growth and food growth. Simple growth rates for population and food has been calculated for the periods of 1981 to 1991 and 1991 to 1998 (Table 5.3).

Table 5.3

Rate of Population and Food Growth during the periods of 1981 to 1991 and 1991 to 1998

Districts	Population Growth		Food Growth	
	1981-91	1991-98	1981-91	1991-98
Allahabad	2.96	1.81	12.78	3.50
Pratapgarh	2.27	1.44	10.04	4.00

Varanasi	3.13	1.90	20.99	0.93
Mirzapur	3.39	1.67	27.48	8.97
Sonbhadra		1.94		3.25
Jaunpur	2.69	1.67	9.56	1.27
Ghazipur	2.42	1.49	17.98	2.80
Ballia	2.22	1.40	6.85	3.99
Gorakhpur	2.49	1.54	17.58	8.78
Maharajganj		1.56		0.36
Deoria	2.69	1.67	3.90	8.08
Basti	2.42	1.54	28.03	3.69
S. Nagar		1.48		3.79
Azamgarh	2.63	1.56	18.00	3.74
Mau		1.75		0.98
Faizabad	2.50	1.55	11.70	3.77
Gonda	2.60	1.61	17.82	1.24
Bahraich	2.47	1.54	16.24	0.43
Sultanpur	2.52	1.55	14.99	3.52

Table 5.3 indicates that growth of population was high during the period 1981 to 1991. During this period it was more than 2 percent per annum and in some districts it was more than 3 percent per annum. But during 1991 to 1998, it declined and remained below 2 percent per annum in all the districts of Eastern Uttar Pradesh. Similarly food growth was also high in all districts during 1981 to 1991, and it was more than population growth, but during 1991 to 1998 growth rate of food production was low and in some districts it was less

than population growth. For example in Varanasi, Gonda, Jaunpur, Maharajganj, Mau and Bahraich the growth of population is higher than the food growth. In other districts, the food growth was high than the population growth and in some districts such as Mirzapur, Gorakhpur, Deoria, it was more than 8 percent or annum.

On the basis of total population and total food production, the per head availability of food in each districts of Eastern Uttar Pradesh can be calculated and with help of this, it can be easily identified that which district produced higher or lesser amount of food grain in terms of requirement per head per annum i.e. 176 kgs per head per annum (standard requirement, according to Indian Council of Medical Research, Hyderabad). Therefore to obtain these values for each district of Eastern Uttar Pradesh for the years 1981, 1991 and 1998, the total production is divided by the total population of that year. (Table 5.4)

Table 5.4: Per Head share of food grain production in Eastern Uttar Pradesh

Districts	1981		1991		1998	
	Kgs	Surplus /Deficit	Kgs	Surplus /Deficit	Kgs	Surplus /Deficit
Allahabad	93.75	-82.25	164.78	-11.22	188.30	12.30

Pratapgarh	123.05	-52.95	201.00	25.00	245.99	69.99
Varanasi	68.32	-107.68	161.22	-14.78	148.17	-27.83
Mirzapur	70.86	-105.14	207.79	31.79	337.77	161.77
Sonbhadra	-	-	183.58	7.58	203.71	27.71
Jaunpur	147.20	-28.80	226.86	50.86	219.13	43.13
Ghazipur	97.70	-78.30	220.00	44.00	245.03	69.03
Ballia	137.88	-38.12	190.06	14.06	233.23	57.23
Gorakhpur	102.86	-73.14	117.19	-58.81	190.77	14.77
Maharajganj	-	-	428.24	252.24	356.59	180.59
Deoria	167.02	-8.98	126.39	-49.61	195.74	19.74
Basti	176.65	0.65	226.63	50.63	268.90	92.93
S. Nagar	-	-	542.50	366.50	315.27	139.27
Azamgarh	109.33	-66.67	219.11	43.11	260.30	84.30
Mau	-		292.60	116.60	224.47	48.47
Faizabad	155.70	-20.30	270.28	94.28	322.19	146.19
Gonda	124.54	-51.46	275.37	99.37	266.58	90.58
Bahraich	151.36	-24.64	318.55	142.55	277.01	101.01
Sultanpur	120.28	-55.72	239.99	63.99	280.76	104.76

The table 5.4 indicates that the trend of self-sufficiency seems to be more satisfactory in 1998 than in 1981 and 1991. In 1981, all the districts of Eastern Uttar Pradesh were in deficit. In 1991, the food grain production was higher than the population growth and therefore the position of food requirement improved in most of the districts except Allahabad, Varanasi, Gorakhpur and Deoria. The position seems to be more satisfactory in 1998, where all the districts except Varanasi recorded surplus per head food grain

production. In Varanasi, the low level per head share is due to many reasons. Firstly the district is often effected by flood. Secondly because of religious centre and big city there is a large scale migration of neighbouring districts in search of jobs. Thirdly, because of great demand of vegetables in city, farmers are growing more vegetables in the near by fields than food grains. The position of food grain production in other districts is satisfactory. Some districts have large scale surplus as far as the per head share of food grain production is concerned. These districts are Mirzapur, Maharajganj, Siddharth Nagar, Faizabad, Bahraich and Sultanpur where the surplus food grain production in more than 100 kgs. These districts have more production than the population share. It is due to per hectare high yield and high man land ration. The other districts which have per head share more than 50 kgs than standard requirement are Pratapgarh, Ghazipur, Ballia, Basti, Azamgarh and Gonda. In these districts, though the yield level is considerably high but due to high density of agricultural population, the per head production is less than 100 kgs. In the remaining districts such as Allahabad, Sonbhadra, Jaunpur, Gorakhpur, Deoria and Mau, the surplus per head share of food grain production is less than

50 kgs. Here, it is mainly due to high density of agricultural population and low man-land ratio.

On the basis of above discussion it can be said that in recent years the demand for food grains has not been increasing as anticipated because of the incentive for greater production has been provided more by the higher guaranteed procurement price. At present, generally all the districts have per head per annum higher production than the standard requirement. But the price in open grain market are often higher that procurement prices. Similarly better quality grain is offered in the open market for which the demand is higher while the inferior quality food grains is offered to government procurement. However, the demand for food grain will increase in future as the population is increasing and this increasing demand calls for a hard look at the prospects of food grains production in the coming years. Considering this problem, technological advancements for higher agricultural productivity have been clearly identified and are being more and more efficiently attended. Therefore, it is said that Eastern Uttar Pradesh will produce more food grains in coming years and the consumption and distribution pattern of food grains will demand more attention for prospective incomes and their distribution.

5.5 SURPLUS AND DEFICIT IN FOOD AVAILABILITY:

There are many limitations for the criteria to measure the surplus and deficit level of food availability. The different methods have been developed for this purpose such as total availability of cereals of the level of standard requirement, either in terms of calories or various recommended allowances of nutrients, namely protein, calcium, carbohydrates, fats, iron, minerals and vitamins. Similarly, these allowances also vary with each age groups, sex, body weight, occupation and temperature. The dietary habits of normal healthy people in different parts of the country and among different ethnic groups, their total food intakes and the proportions of ingredients in the total intake, reveal significant differences. The uniform norms of desirable cereals and pulses requirement for the country as a whole irrespective of regions of varied climate conditions, communities and cultures can be used. This exercise does not take into account foods that are locally available and enter into the common diet, like fish, coconut or fruits or vegetables, or even those local foods, most often rightly chosen, which have an economizing effect on the food budget. The main cause of this is that the data of such

type food is not available. Therefore the present attempt begins with the assumption that the requirements of cereals and pulses for the entire population throughout the study area will be uniform, because cereals and pulses are important things for diet and nutrition in Indian situation. Therefore, attempt have been made to find out cereal and pulses intakes and requirements for the people in Eastern Uttar Pradesh. However, the present exercise at district level have some limitations as it does not include all type foods but it would still have significant messages for understanding the situation of hunger, nutrition and malnutrition in the study region on the basis of availability and requirements of cereals and pulses alone and this exercise will be useful at least for district planners. Keeping in view the scope of this exercise an estimation is undertaken of the daily per capita food consumption required for balanced diet for five broad age groups. These five population sub-groups are : (i) below the age group of 15 year, (ii) adult males 15 years and above (iii) females pregnant above 15 years (iv) lactating adult females 15 years and above (v) others adult females. The basic data for this estimation has been taken from Diet Atlas of India, published by the Indian Council of Medical Research. The limitation of this study is that only the food grains, like cereals

and pulses, which form the bulk of the average Indian diet have been considered. (Table 5.5)

Table 5.5-Age Structure and Food Requirement

1- A child	-	105.12	kg. per year
2- Adult Male	-	209.05	kg. per year
3- Pregnant Women	-	175.06	kg. per year
4- Lactating Women	-	197.05	kg. per year
5- Adult Women	-	157.03	kg. per year

The figures in the table 5.5 are the minimum amount of food grain required daily per capita and below this level, there may be possibility of malnutrition. These figures also indicate the food grains needs of average persons. No refinement has been made, for hard manual workers, or ailing persons or growing persons in the early years of adult hood.

On the basis of above food grains requirement for different age group an average per head requirement for per annum has been estimated. The average requirement is considered as standard requirement of food grains and it includes only total cereals and pulses requirements for every person in one year. This standard requirement is total 176 kgs. per head per annum and it is applicable throughout the India. Out of this total 176 kgs. requirement, the share of cereals is 146 kgs. and pulses share is 30 kgs. Considering these estimates of cereals and pulses, the per head

requirements of total cereals and total pulses per annum for Eastern Uttar Pradesh as a whole and for every district of Eastern Uttar Pradesh have been calculated for the years 1981 and 1998. The difference between total food grain production and the total food grain required in a district is calculated. This Calculation provides us the surplus and deficit conditions of food grains (Cereals and Pulses) in each district of study region (Tables 5.6 and 5.7). The districts which have food grains availability greater than the food grains demand, are rated as surplus districts and those districts, which have food grains demand greater than the food grains available from production are rated as deficit districts. These estimates of food surplus and deficit give a measure of nourishment and malnutrition in different districts of Eastern Uttar Pradesh.

Table 5.6: Per Head Share in Production of Cereals and Pulses in 1981.

Districts	Cereals		Pulses	
	Kgs.	Deficit/ Surplus (Kgs.)	Kgs.	Deficit/ Surplus (Kgs.)
Allahabad	65.77	-80.23	27.98	-2.02
Pratapgarh	100.89	-45.11	22.16	-7.84
Varanasi	57.49	-88.51	10.83	-19.17
Mirzapur	57.49	-88.51	13.37	-16.63
Jaunpur	129.80	-16.20	17.40	-12.60

Ghazipur	80.45	-65.55	17.26	-12.74
Ballia	109.56	-36.44	28.32	-1.68
Gorakhpur	146.96	0.96	6.90	-23.10
Deoria	175.90	29.90	4.87	-25.14
Basti	106.17	-39.83	5.03	-24.97
Azamgarh	95.68	-50.32	11.61	-18.39
Faizabad	143.60	-2.40	12.10	-17.90
Gonda	111.20	-34.80	13.34	-16.65
Bahraich	142.06	-5.94	11.30	-18.64
Sultanpur	108.48	-37.52	17.18	-12.82
Eastern U.P.	104.18	-41.81	13.77	-16.23

- Per head standard requirement of cereals – 146 kgs.

- Per head standard requirement of pulses 30 kgs.

Table 5.6 presents the per head share in production of cereals and pulses in Eastern Uttar Pradesh as a whole and in different districts of the region in 1981. A perusal of this table shows that in Eastern Uttar Pradesh as a whole and in most of the districts there was deficit condition in per head share of cereals and pulses. Only two districts namely, Deoria and Gorakhpur present positive conditions. Gorakhpur showed a slight higher conditions while Deoria was only district in 1981 which has a surplus production cereals. All the other districts have deficit conditions in cereals and in the case of pulses no district has surplus conditions. But this deficit in cereals and pulses is not uniform for all the districts. It ranges from – 2.40

kgs per head in Faizabad district to – 88.51 kgs per head in Varanasi and Mirzapur districts in cereals production while in the case of pulses it varies from – 1.68 kgs. per head in Ballia district to – 25.14 kgs. per head in Deoria district. In cereals, the districts of Allahabad, Varanasi and Mirzapur recorded more than 50 percent deficit. Similarly the districts of Pratapgarh, Ghazipur, Basti, Azamgarh and Sultanpur showed less than 50 percent but more than 25 percent deficit. The remaining districts had less than 25 percent deficit. As far as pulses are concerned, we find that in most of the districts the deficits was very high. The districts of Gorakhpur, Deoria and Basti recorded more than 75 percent deficit while the districts of Varanasi, Mirzapur, Azamgarh, Faizabad, Gonda and Bahraich presented the deficit between 50 percent and 75 percent. The minimum deficit less than 10 percent is found in Allahabad and Ballia districts, while the remaining districts have deficit in pulses between 25 percent and 50 percent.

After 1981, the production of cereals in Eastern Uttar Pradesh has made a steady progress. The per head cereals production which was in deficit position in Eastern Uttar Pradesh as a whole and in most of the districts of study region in 1981 rose to be in surplus positions in Eastern Uttar Pradesh as a whole and in all the districts of the region in

1998 (Table 5.7). This increase in cereals production has been possible due to the technological improvement brought about in the cultivation of wheat and rice. But in this race of outputs, pulses have lagged so far behind. This new technology left the pulse production comparatively untouched. Similarly, in the case of cereals, only wheat and rice are two major cereals responsible for the remarkable increase in total cereals production. The other cereals either remained stagnant or presented a negative phenomena.

Table 5.7: Per Head Share in Production of Cereals and Pulses in 1998.

Districts	Cereals		Pulses	
	Kgs.	Deficit/ Surplus Kgs.	Kgs.	Deficit/ Surplus Kgs.
Allahabad	166.61	20.61	21.68	-0.8.32
Pratapgarh	230.63	84.63	15.36	-14.64
Varanasi	143.20	-2.80	4.99	-25.01
Mirzapur	266.41	120.41	19.66	-10.34
Sonbhadra	181.78	35.78	21.93	-08.07
Jaunpur	210.04	64.04	9.09	-20.91
Ghazipur	234.55	88.55	10.48	-19.52
Ballia	223.16	77.16	10.06	-19.94
Maharajganj	345.79	199.79	10.79	-19.21
Gorakhpur	190.08	44.08	6.97	-23.03
Deoria	210.49	64.49	4.53	-25.47
Basti	258.91	112.91	10.02	-19.98
S. Nagar	305.34	159.34	9.93	-20.07

Azamgarh	253.03	107.03	7.26	-22.74
Mau	219.12	73.12	5.36	-24.64
Faizabad	311.83	165.41	10.37	-19.63
Gonda	252.41	106.41	14.17	-15.83
Bahraich	259.96	113.96	17.05	-12.95
Sultanpur	266.09	120.09	14.67	-15.33
Eastern U.P.	**230.37**	**84.37**	**11.36**	**-18.64**

Table 5.7 reveals the per head share in production of cereals and pulses in 1998. This table clearly indicates that the per head share of cereals has increased more than 100 percent in all the districts as well as in Eastern Uttar Pradesh as a whole. But per head pulses production decreased from 1981 to 1998 in Eastern Uttar Pradesh as a whole and in most of the districts of the study region. In cereals production, all the districts except Varanasi has surplus production. Only Varanasi has a very little deficit of 2.80 kgs per head in 1998. The main cause is the large scale increase of area under sugarcane production and under industrial development. In other districts, the surplus production ranges from 20.61 kgs. per head in Allahabad to 199.79 kgs. per head in Maharajganj district. Similarly Eastern Uttar Pradesh has 84.37 kgs. per head surplus of cereals production. Thus at present there is no shortage of cereals in the region. The region has sufficient production of cereals than the requirement for the total

population of the region. But in the case of pulses there is decrease in per head pulses production from 1981 to 1998. The per head deficit of pulses increased from 16.23 kgs. in 1981 to 18.64 kgs. in 1998. Similarly, it also increased in most of the districts of Eastern Uttar Pradesh. The highest deficit in per head production of pulses is found in the districts of Varanasi, Deoria, Gorakhpur and Mau. In these districts the deficit is more than 75 percent. The districts, where deficits is more than 50 percent are Jaunpur, Ghazipur, Ballia, Maharajganj, Basti, Siddarth Nagar, Azamgarh, Faizabad, Gonda and Sultanpur. The remaining five districts have less than 50 percent per head deficit in pulses production.

The main cause for this decrease in production of pulses in Eastern Uttar Pradesh is the decrease in area under pulses. It has been found that a large area under these pulses has been replaced by wheat and rice. Because, the productivity of wheat and rice has increased many times by new agricultural technology. Therefore, farmer prefer to grow wheat and rice on more lands than pulses. Similarly pulses are more susceptible to pests and diseases and adverse weather conditions and give per hectare low yields than wheat and rice. Therefore farmers are growing wheat and rice more than pulses.

CONCLUSION AND SUGGESTIONS

CONCLUSION AND SUGGESTION

The concept of "Region" or Area as a means of economic growth and guaranteeing the sharing out of the fruits of material and social progress among the people living in all part of a country is increasingly becoming relevant in modern society. Areas classed as "Backward" are treated as particular area or districts or groups of districts having bordered topological space and facing particular locational problems such as grim poverty, unemployement, low income etc. The strategies for development of backward region and to minimize regional disparities, it would be appropriate to understand the concept of region. The term "region" is closely associated with the concept of area or space. The term region is used to mean different spatial units by different persons. Thus it has been used to mean a resource region, programme region, metropolitan region, depressed region, planning region and so on.

There are three ways to define a region. One deals with the homogeneous characteristic, usually a combination of spatial and economic aspects of a region. Second analyses the polarization around some market or urban place within a region, and the third works out a coherent relationship

between the existing administrative and political set up and the policy decisions. These attempts to identify a region are respectively based on homogeneity, nodal and programming criteria.

The design of development for the economy as a whole was being discussed. There has been reference for development of "Backward areas" in the economy in the various plan documents. The discussion of the development of backward areas has been in the context of bringing about a balanced regional development and removing regional disparities. It was recognized in the second five year plan that in any comprehensive plan of development, it is axiomatic that the special needs of the less developed areas should receive due attention.

The base definition of planning invites much more conceptual explanations and clarifications, as the man made efforts on the one hand, and socio-economic development on the other, have a conspicuous scope of thematic considerations. Specially planning implies a process of conscious and deliberate centralized economy for transforming the social structure and utilizing the national resources in order to fulfil certain pre-conceived goals. Planning is such a

technique for socio-economic development as an adjustable means to the changing pattern of socio-technical environment of the society. Planning is the use of collective intelligence and foresight to chart direction, order hormony and progress in public activity relating to the human environment and general welfare. The success of planning for development, depends upon the capacity of planning agencies at different administrative levels to co-ordinate the policies as well as direct and active participation of the people at large in the formulation as well as implementation of the plan.

Regional planning is such a strategy which deals, simultaneously, with the problem of multi-level spatial units directly or indirectly. However, regional planning would seem to require a bunch of complementary economic activities and rules be formulated for the proper setting of each of these activities. In an area for regional planning, the different regional factors interact and operate in mutual actions and reactions and any change in one normally leads to changes in other, thus setting up a chain reaction. In fact, there is a two-way chain reaction, one internal within the regions, and the other external with the neighbouring or farther regions, through the different hierarchical levels of regions.

The purpose of regional planning is not, the physical development alone of a particular area or region, but it is to attain certain social objectives eliminating inter-regional tension and socio-economic imbalance. Regional planning is an attempt to plan a rational dispersal of industries ensuring better securities and defence and to ensure optimum pattern of resource allocation leading towards balanced and integrated regional development of the country. A regional planner essentially should have complete knowledge pertaining to the conditions required for a successful regional planning. For regional planning three prime consideration become important for it successful performance such as (i) Identification of the specific needs of the region within the overall context of the needs of the entire country (ii) An accurate assessment of the limits and opportunities imposed on natural resources of the region, and (iii) Selection of suitable strategy for development.

The role of planning interms of regional development require a certain amount of technical and statistical expertise at the formulation stage and effective participation of people at the implementation stage. These requirements are woefully missing in our planning processes. In addition, the absence in proper planning machinery at the state level and the complete non-existence of planning infra-structure at the district levels,

make the task of preparing and implementing district plans still more difficult. An attempt in this direction was made by evolving a three-tier structure of Panchayati Raj Institutions – Village Panchayat, Panchayat Samiti and Zila Parished. The Zila Parishad was to function at the district level; while the District Collector continued to be the "collector" of practically all governmental authorities in the district. There is another serious problem that has not been referred to, though the District Collector has, the district-level functionaries of all the departments such as health, education, co-operation, veterinary, engineering etc. under him but these functionaries deal directly with their respective department at the state level. Thus, there is "dual supervision" and the possibility of frictions and disputes cannot be ignored.

Thus it is said that for the district planning, it is necessary to provide horizontal co-ordination and integration between the district administrative system and the local political system and vertical integration between the district level and the state level.

Eastern Uttar Pradesh is an important part of the Uttar Pradesh. It spreads from 23° 45' to 28° 20' North latitudes and 81° 5' to 84° 36' East longitudes. The greatest length from

North to South is about 550 kilometers and maximum width from East to West is about 375 kilometers. The region according to 2001 census, has a population of 52.93 million, spreads over an area of about 85.84 thousand square kilometers. About two third of the total population is engaged in agricultural activity and about three-fourth of the total population lives in rural areas. The region as a whole comprises of 19 districts of Uttar Pradesh.

After the green revolution, the region has made drasting changes in all socio-economic factors. The serious problems in India is the regional disparities and it causes social, economic and political instability. This problem is found every where in India. As far as the development of this region is concerned there is considerable spatial disparity in the level of development. Development interms of industrialization urbanization, communication and other sectors are found only in few areas while the others are backward. In the present study both techniques qualitative and quantitative have been used. These techniques are simple statistics and 'Composite-Index" and they are used for the assessment of socio-economic development and agricultural development in Eastern Uttar Pradesh. Such type study provides a base for national planning and helps researchers, administrators, policy makers

and planners to identify regions, at different levels of development.

An analysis of the study area to identify the backward regions, to measure the levels of sectoral and over all development and extent of disparities in Eastern Uttar Pradesh, has been made on the basis of various socio-economic levels of development for the year 1980 to 1996. With the help of this analysis it has been found that there is general development in socio-economic fields. But this development is not uniform in all the districts. The indicators which are used for this purpose are agriculture, industry, education, health, communication, transportation, banking, co-operative societies and powers. These indicators have not been developed in uniform pattern in all the districts. Some are highly developed and some are less developed. Similarly, some are developed in some districts while in other districts they are not developed. Agriculture, education, transport, communication, banking, co-operative societies and power sectors have made high and moderate development in most of the districts of Eastern Uttar Pradesh. The industries have made high and moderate development in Allahabad, Varanasi, Gorakhpur, Deoria, Mau and Sonbhadra, while in the remaining districts the development of industries was low.

Similarly, health sector also made high development in Allahabad, Varanasi and Gorakhpur and moderate development in Ballia, Basti, Faizabad, Pratapgarh, Sultanpur and Mau districts. In general, the districts of central and north-western parts have made less progress than the districts of other parts of the study region. There are different factors for the different types development in different sectors. For examples in the fields of agriculture less development in some districts is due to unfavourable topography, problems of floods and famines, lack of capital and lack of diffusion of agriculture etc. Less development in industries is attributed to the fact that there is a good development in agriculture and more than seventy percent population is engaged in agricultural activity. The educational development is generally related to urban centres and hence high level development is found is those districts which have large number of settlements in terms of population and rural areas have low level of educational development. Transport and Communication sectors, in general, have made good progress in most of the districts. Only few districts such as Basti, Gonda, Mirzapur, Siddarth Nagar, Maharajganj, Deoria and Sonbhadra have made slow progress. The development of these sectors depends on the government policies and programmes and ultimately

government policies are not the same for all the districts. Therefore, some districts made good progress and some districts made slow progress. Health and bank facilities are also related mainly to urban centres. The major development of these sectors is found in urban areas. Therefore those districts which have large urban settlements, they have high growth in health and bank sectors and in those districts where urban development is less generally the development of these sectors is moderate and low. Co-operative societies development is found more in those areas where modern banking facilities are lacking and where the regions are mainly rural in nature. Power development was high and moderate in most of the district except Bahraich, Basti and Pratapgarh where it was slow.

Level of regional development show many dimensions of progress and stagnant. There are found strong contrast in the levels of development between the different regions of the area. A contiguous region of high level of development is observed in the southern part of the area, which is relatively prosperous and well developed while the other regions are moderately developed. The general pattern of the levels of development shows a decline in the economic and social well being in some districts like Bahraich, Basti, Gonda, Maharajganj and

Siddarth Nagar. The high level development is found in Allahabad, Varanasi, Sonbhadra, Mirzapur, Gorakhpur, Azamgarh and Mau. These districts attained the high level in 1996. Similarly the districts of Pratapgarh, Ballia, Deoria, Faizabad, Sultanpur Jaunpur and Ghazipur recorded the medium level development in 1996. Five districts namely Bahraich, Gonda, Basti, Siddarth Nagar and Maharajganj remained in low level category because of less development of agricultural, economic and social facilities and amenities. In these districts we find some industrial development but the development in other sectors is very slow.

The "Food-Security" is defined as a situation where every one on the globe has access, at all times to the food needed for an active and healthy life. At the district level or house hold level, food-security implies having physical and economic access to foods that are adequate in terms of quantity, quality and safety. The over all food security entails three basic issues viz (i) availability (ii) stability (iii) accessibility.

The dietary habits of normal healthy people in different parts of the country reveal significant differences. Similarly, the data related to foods that are locally available and enter into the common diet like fish, coconut or fruits or vegetables

etc. is not available. Therefore, in the present study the uniform norms of desirable cereals and pulses for the entire population of Eastern Uttar Pradesh have been used. Because the data of cereals and pulses is available and they are important things for diet and nutrition in Indian situation. According to Indian Council of Medical Research Hyderabad, the standard requirement for food (cereals and pulses) is 176 kgs. per head per year. Indian economy is an agricultural economy and here more than seventy percent population is engaged in agriculture and live in rural areas, therefore food-security in India involves an over all rural development, agricultural development and corresponding poor man's development, where by he is able to either produce sufficient food in the decentralized regional planning for or else is able to earn to buy sufficient food. Equitable availability of food and equitable accessibility of food require decentralized regional planning for food production and planning for storage and decentralized marketing.

In Eastern Uttar Pradesh it has been found that in recent years the demand for food grains is not increasing because of greater production. All the districts have per head per annum higher production than the standard requirement. But if we see the production pattern of cereals and pulses in

Eastern Uttar Pradesh since 1981, we find a different pattern of production of cereals and pulses. It has been found that in 1981, there was deficit condition in per head share of cereals and pulses in most of the districts. Only two districts namely Deoria and Gorakhpur presented positive condition. But in 1998, the per head share of cereals has increased more than 100 percent in all the districts and per head share of pulses decreased from 1981 to 1998. Thus at present there is no shortage of cereals in the region and the region has sufficient production of cereals than the requirement for the total population. But the per head pulses production has decreased in most of the districts of Eastern Uttar Pradesh from 1981 to 1998. The main cause of decease in pulses production is the decrease in area under pulses. It has been found that a large area under pulses has been replaced by wheat and rice. Because the productivity of wheat and rice has increased many times by new agricultural technology. This is the major cause that is why the production of cereals has increased in Eastern Uttar Pradesh while the production of Pulses has decreased.

Thus from the study two points emerge – one is that there is adequate cereal production in the region than the requirement and other is pulse production is less than the

requirement. The pulse prices, at present are very remunerative to the farmers but it is the risk of crop failure due to pests and diseases that discourages the farmers to cultivate the pulses in the large scale. Therefore, it is essential for the agricultural scientists to bring about a technological break through as in the case of wheat and rice by developing more high yielding and pest and disease tolerant varieties of pulses. Keeping this view in mind, a number of improved varieties of pulses have been developed and they have checked the declining trend in areas where irrigation has been introduced. Now, the major task lies in motivating the farmers to adopt the pulse production also just like the wheat and rice. Similarly, there is a need to introduce short-duration varieties of pulses both under irrigated and unirrigated conditions. This will help greatly in increasing the pulse production in Eastern Uttar Pradesh.

As far as cereals production is concerned there is adequate production in the study region. There is no any shortage of cereals in Eastern Uttar Pradesh at present. It has been possible mainly due to the high yield and higher growth rate of production by the new agricultural technology. But this adequate food grain production is not available to all the people at all times for an active and healthy life. Poverty has

been one of the major causes for this poor food security. More than seventy percent population lives in rural areas and is engaged in agricultural activity. This population, by and large, is characterized by dirt, disease, mul-nutrition, ignorance illiteracy, lack of resources for improvement and development and a very low rate of capital formation, considerable unemployment and more under employment and very low percentage of rural people to take advantage of science and technology because they have neither resources nor the adequate knowledge. Acute and chronic under nutrition and most macro nutrients deficiencies primarily affect the poor and deprived people who do not have access to adequate food, live in unsanitary environment, without access to clean water and basic services and lack of access to appropriate education, capital, communication and information. In developing countries, where approximately 2/3 of the population lives in rural areas, increased production of food for family consumption or as a source of income helps to stabilize food price and improved marketing facilities can also contribute the food security.

Thus, there is a need to improve the socio-economic conditions in rural areas and it will ultimately offer an

opportunity for better income and employment generation, so that the poor can have access to food.

No doubt study reveals that in Eastern Uttar Pradesh socio-economic development is also found but it does not keep the pace with the agricultural growth and population growth. In some districts such as Gorakhpur, Allahabad, Varanasi, Azamgarh, Mirzapur and Sonbhadra it was high while in Faizabad, Pratapgarh, Ballia, Deoria, Jaunpur, Ghazipur and Sultanpur it was moderate. In the remaining five districts namely Bahraich, Siddarth Nagar, Gonda, Basti and Maharajganj, it was low. There are different factors for this uneven growth of socio-economic development.

Thus after identifying the districts to the levels of the development different strategies of development should be persuaded in order to develop the districts at a faster rate of growth, to bring down the regional disparities and to increase the income and employment opportunities so that poor can have an access to food. The major thrust of planning should be on the development of all sectors in all the districts at a faster growth rate than the rate of population growth. Thus, the proper balanced regional development strategy should aim at increasing the rate of growth in all sectors of all districts

and at the same time the gap between the highest and the lowest district comes closer and closer.

Considering these point the following suggestions have been made to improve the socio-economic conditions in Eastern Uttar Pradesh:

1. We should adopt overall development strategies and macro-economic policies that would create conditions for growth with equity.
2. We should accelerate growth in food and agricultural sectors and promote rural development or backward area development.
3. We should try to improve the access to land and other natural resources.
4. Attempt should be made to increase employment opportunity for the rural poor and loan facilities for agricultural workers.
5. Storage facilities should be developed at tehsil level or districts level.
6. The transport, communication, education and health facilities should also improved in rural areas.

7. In backward regions Public Distribution System (PDS) should be established.

8. Government should increase the loans for the development of small-scale and cottage industries in backward areas.

On the basis of these suggestions, it can be said that if we adopt these measures honestly, the study region may be self-sufficient, can generate employments, saving, attract capital from outside and automatically starts growing. Similarly, it would be in a position to achieve political, economic and socio-cultural harmony and stability and can achieve a very high level of development.

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GLOSSARY

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Local Names	*English Name*
Andhi	Dust Storm
Arhar	Pigeon Pea
Bhangar	Old Alluvium
Bhur	Sandy Soil
Block	Administrative sub division of a Tehsil.
Boorhi	Old
Chikken	Clayey Soil
Doab	Land between two Rivers
Jhil	Lake
Kankar	Calcium nodules
Khadar	New Alluvium
Kharif	Rainy Season Crops
Kohra	Fog
Loo	Local hot wind prevent in summer
Nadi	River
Nala	Seasonal Stream
Pokhar	Pond
Rabi	Season of Winter Crops.
Raitily	Sandy
Raunsi	Sandy Loam
Reh	Salt afforescent
Tehsil	Administrative sub division of a district
Usar	Saline alkaline Soil.